SERVICE MANUAL

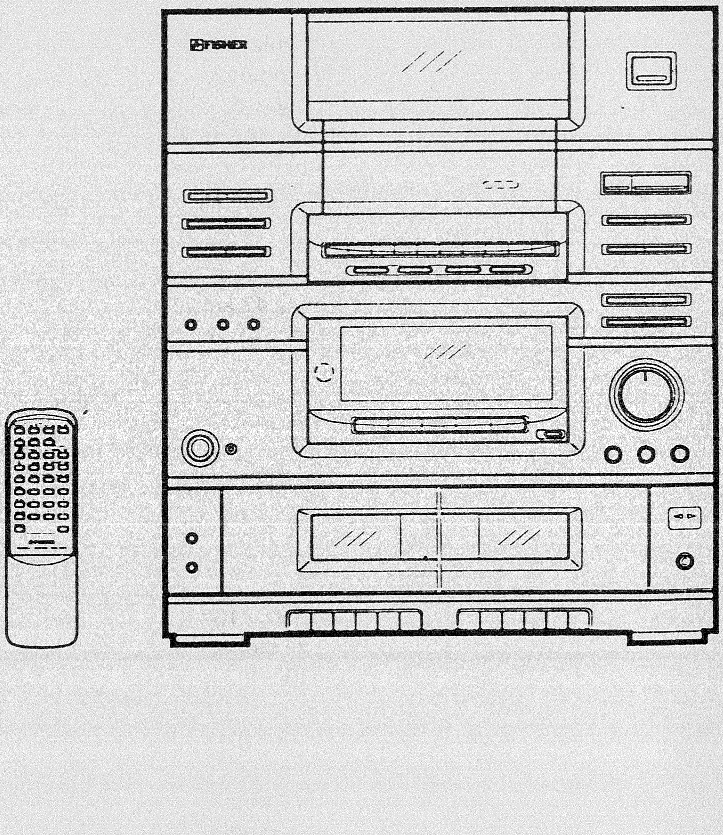
FISHER

TAD-5060

(XE)

Compact Disc Audio Component System

PRODUCT CODE No.
129 459 01



REFERENCE No. SM580536

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SPECIFICATIONS

AMPLIFIER

Continuous minimum sine wave RMS power output per channel at 8 ohms from 40 Hz to 20 kHz with no more than 0.9 % total harmonic distortion	50 watts
Bass control	± 8 dB (100 Hz)
Treble control	± 8 dB (10 kHz)
Dynamic bass	+ 8 dB (100 Hz)

Input Sensitivity and Impedance

PHONO	3.0 mV / 47 kohms
VIDEO (Audio)	300 mV / 47 kohms

Outputs

SPEAKERS (Nominal Impedance) .	8 ohms
PHONE (Nominal Impedance)	8~32 ohms

TUNER

(FM)	
Tuning range	87.5 MHz~108.0 MHz (50 kHz steps)
Usable sensitivity (MONO)	15.2 dBf
(AM)	
Tuning range	522 kHz~1611 kHz (9 kHz steps)
Sensitivity	500 μV / m (AM Loop antenna)

Specifications subject to change without notice.

CASSETTE DECK

Track system	4-track, 2-channel stereo
Frequency response	50 Hz~14 kHz (Chrome tape) 50 Hz~13 kHz (Normal tape)
Signal-to-noise ratio	60 dB (with Dolby B NR ON)
Wow / Flutter	0.18 % (WRMS)
Fast forward / rewind time ..	Approx. 110 sec. (C-60) (TAPE "1")

CD CHANGER

Type	60 Disc Bi-Directional, Radial Transport
Channels	2-channel stereo
Sampling frequency	44.1 kHz
Pick-up	Optical 3-beam semiconductor laser
Frequency response	20 Hz~20 kHz
Signal-to-noise ratio	95 dB
Wow and Flutter	Below measurable limits

GENERAL

Power requirements	AC 230 V , 50 Hz
Power consumption	130 Watts
Dimensions (W×H×D)	Approx. 355×418×450 mm
Weight	Approx. 13 kg

REM-5060 WIRELESS REMOTE CONTROL

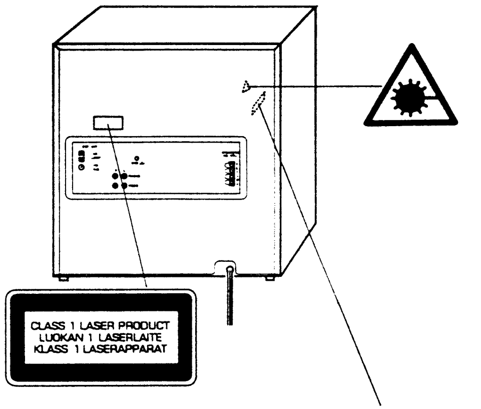
Power requirements	3VDC - Two "AA" batteries
Dimensions (W×H×D)	Approx. 50x173x17.5 mm
Weight	Approx. 65 g (without batteries)

LASER BEAM SAFETY PRECAUTIONS

- Pick-up that emits a laser beam is used in this CD player.

CAUTION :
USE OF CONTROLS OR ADJUSTMENTS
OR PERFORMANCE OF PROCEDURES
OTHER THAN THOSE SPECIFIED
HEREIN MAY RESULT IN HAZARDOUS
RADIATION EXPOSURE

LASER OUTPUT ..... 0.6 mW Max. (CW)
WAVELENGTH ...... 790 nm



CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.
VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

WHAT TO DO IF

If "M-ERROR" scrolls.

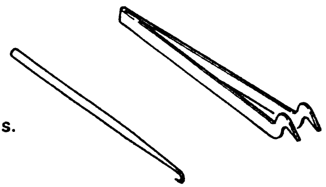
1. Press the POWER button to turn the power off.
2. Press the POWER button to turn the power on.

If the operation of the unit or display is not normal, even though the appropriate buttons have been pressed.

1. Disconnect the power cord.
2. Wait for at least 20 seconds.
3. Connect the power cord.
4. Press the POWER button to turn the power on.
5. Press the desired function button.

REMOVAL AND INSTALLATION

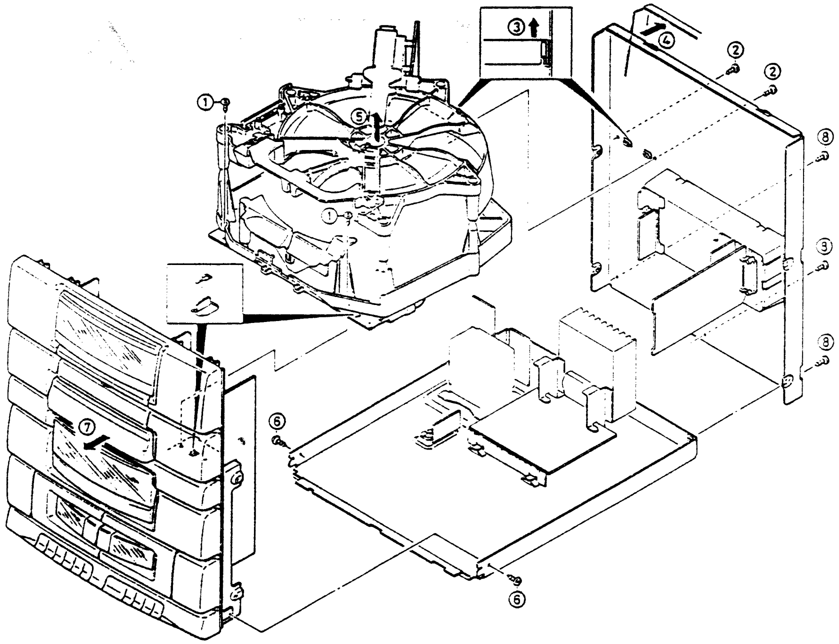
- Disconnect the power cord's plug from the electrical outlet.
- All wiring should be returned to the original position after work is completed.
- First have ready many the new FIXERS (614 129 2496) for replacement.
- Arrange the lead wires so that they are not near the heat sink.
- This unit must be operated in a horizontal position.
- **When carrying the unit, be sure to remove any discs which may be inside and turn the power off. Then unplug the power cord from the AC outlet after 10 seconds. Carrying the unit with any discs inside may damage the discs and / or the unit.**
- Before beginning the following procedure, prepare a spring hook or tweezers of the type shown at right.



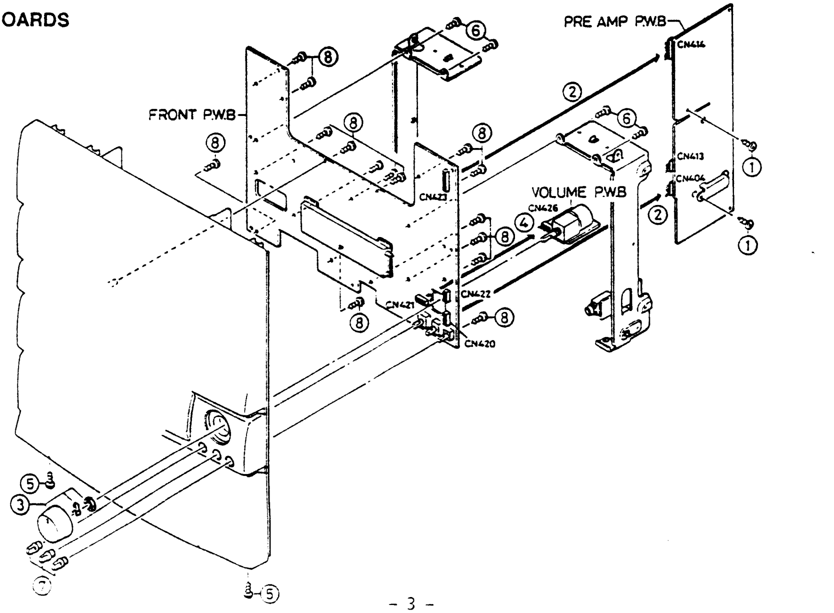
REMOVAL AND INSTALLATION

a. FRONT PANEL

(1) See illustration.


①
②
②
③
④
⑤
①
⑧
③
⑧
⑥
⑦
⑥

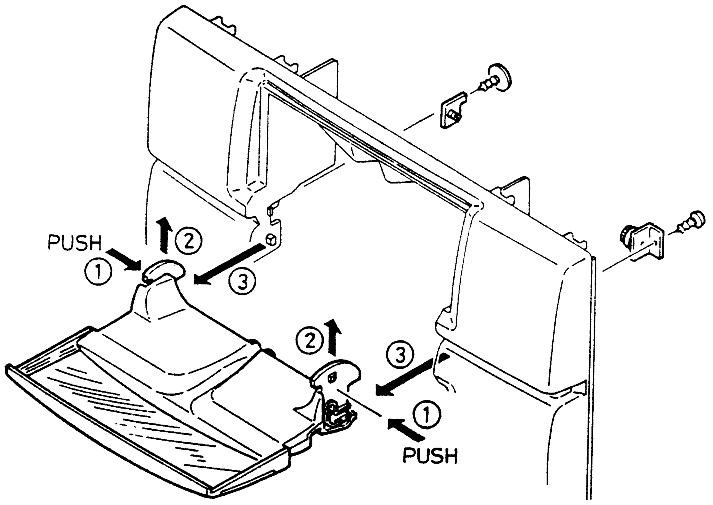
b. P.W.BOARDS


PRE AMP P.W.B
⑥
⑧
FRONT P.W.B
⑧
⑧
⑧
②
⑥
CN414
CN413
CN404
①
①
②
VOLUME P.W.B
CN426
④
⑧
CN423
CN421
CN422
CN420
⑧
⑧
⑤
③
⑦
⑤

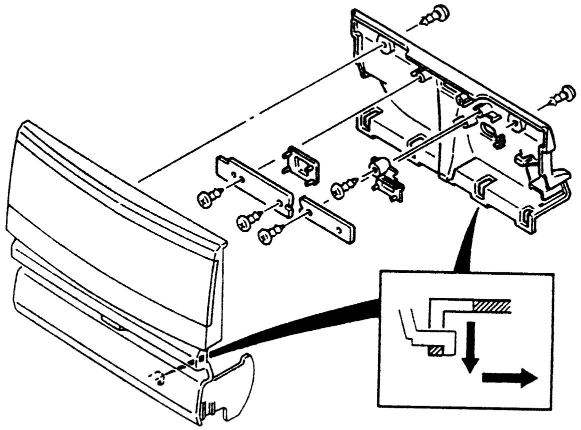
REMOVAL AND INSTALLATION

c. CD DOOR & REAR COVER

(a) CD DOOR


PUSH
①
②
③
②
③
①
PUSH

(b) LAMP & EJECT SWITCH P.W.B

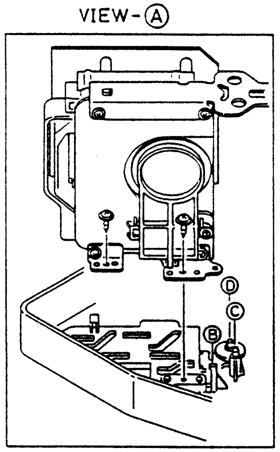


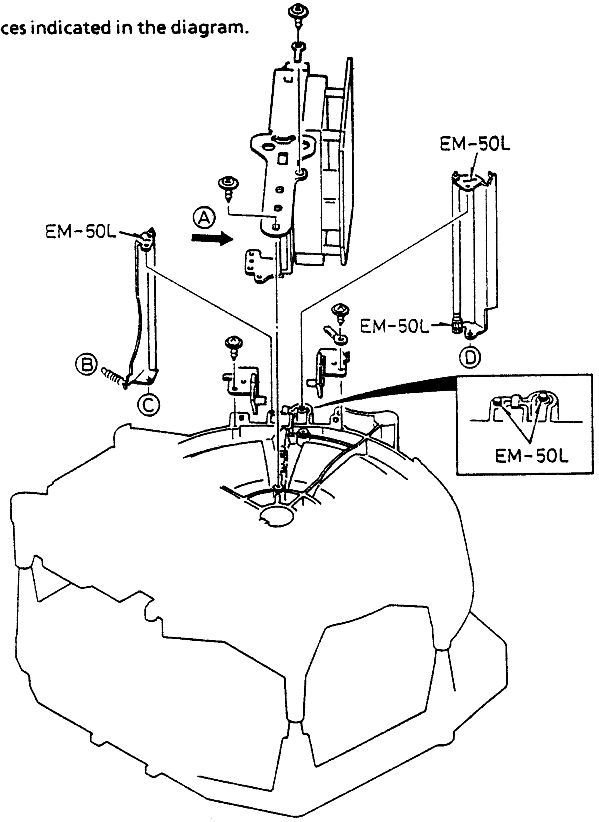
REMOVAL AND INSTALLATION

d. 60-DISC TABLE (TURNTABLE)

- **Apply MC-grease "EM-50L" to the places indicated in the diagram.**

e. CD MECHANISM

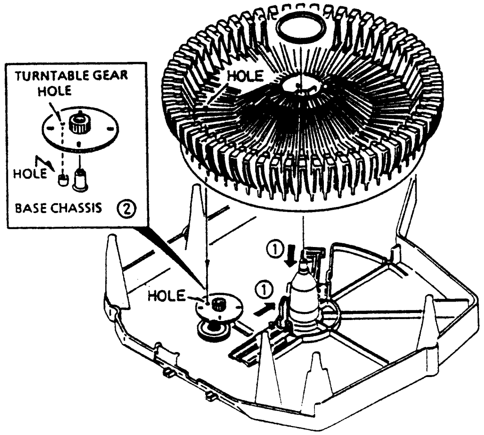



EM-50L
EM-50L
Ⓐ
EM-50L
Ⓑ
Ⓒ
Ⓓ
EM-50L

f. INSTALLATION OF TURNTABLE

(1) Move the disc slide to the position indicated by the arrow. (①)

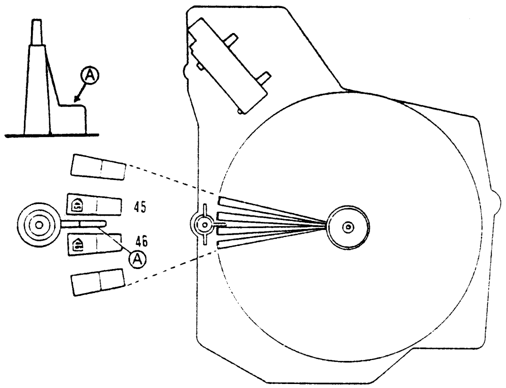
(2) Align the hole in the base chassis with the hole in the turntable gear. (②)

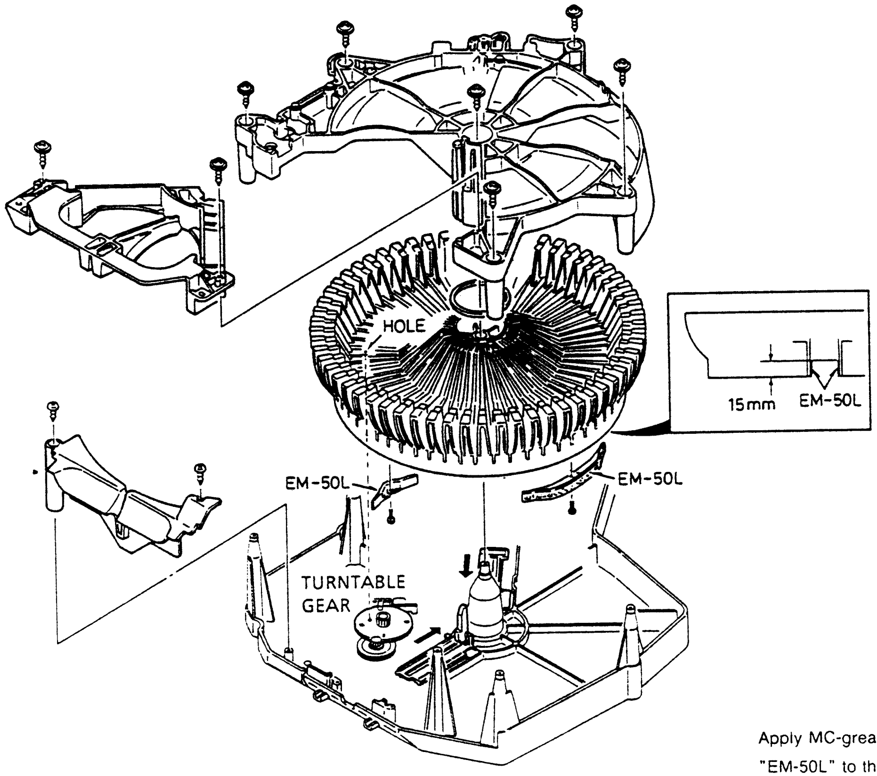

TURNTABLE GEAR
HOLE
HOLE
BASE CHASSIS ②
HOLE
HOLE
①
①

REMOVAL AND INSTALLATION

(3) Align the turntable so that rib (Ⓐ) of the base chassis is visible between disc indicators **45** and **46** on the turntable. (③)

(4) Then insert the turntable.

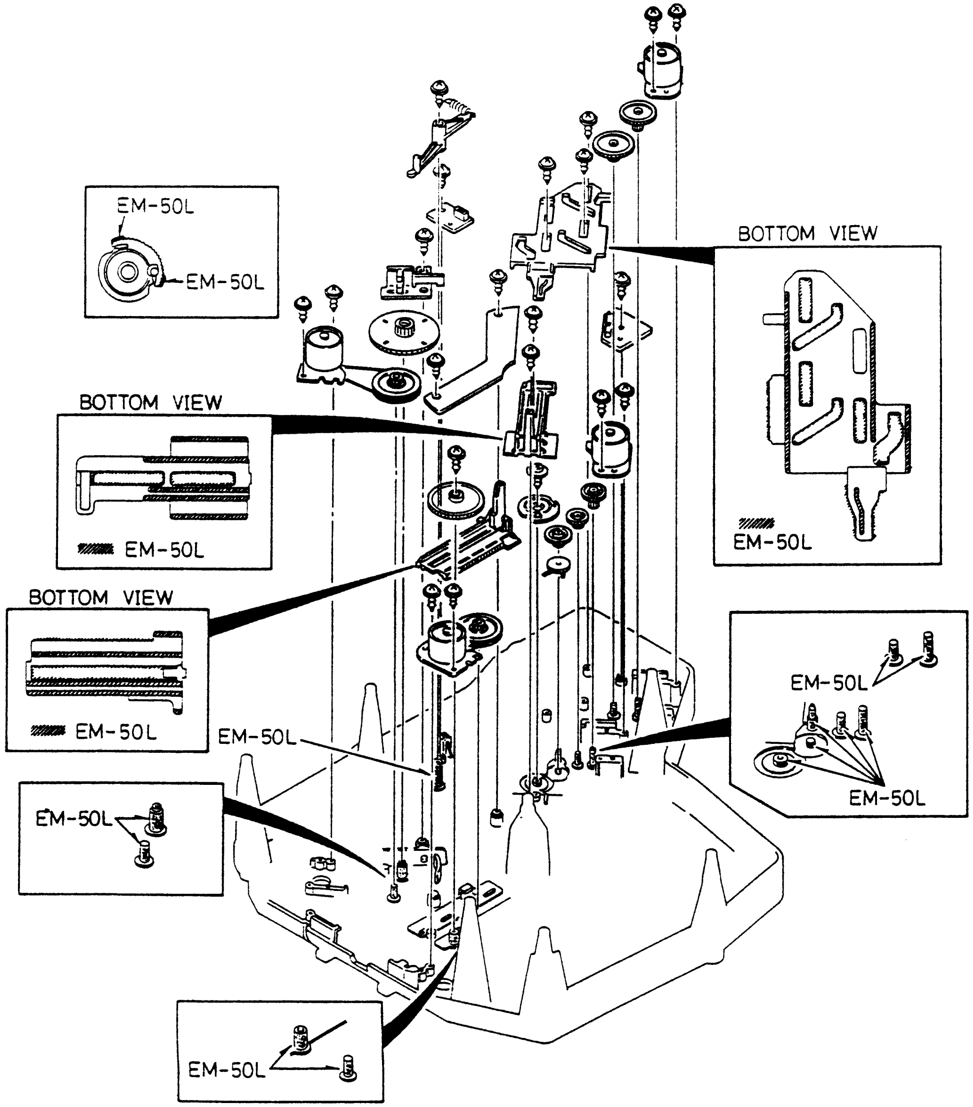



HOLE
15mm
EM-50L
EM-50L
EM-50L
TURNTABLE GEAR

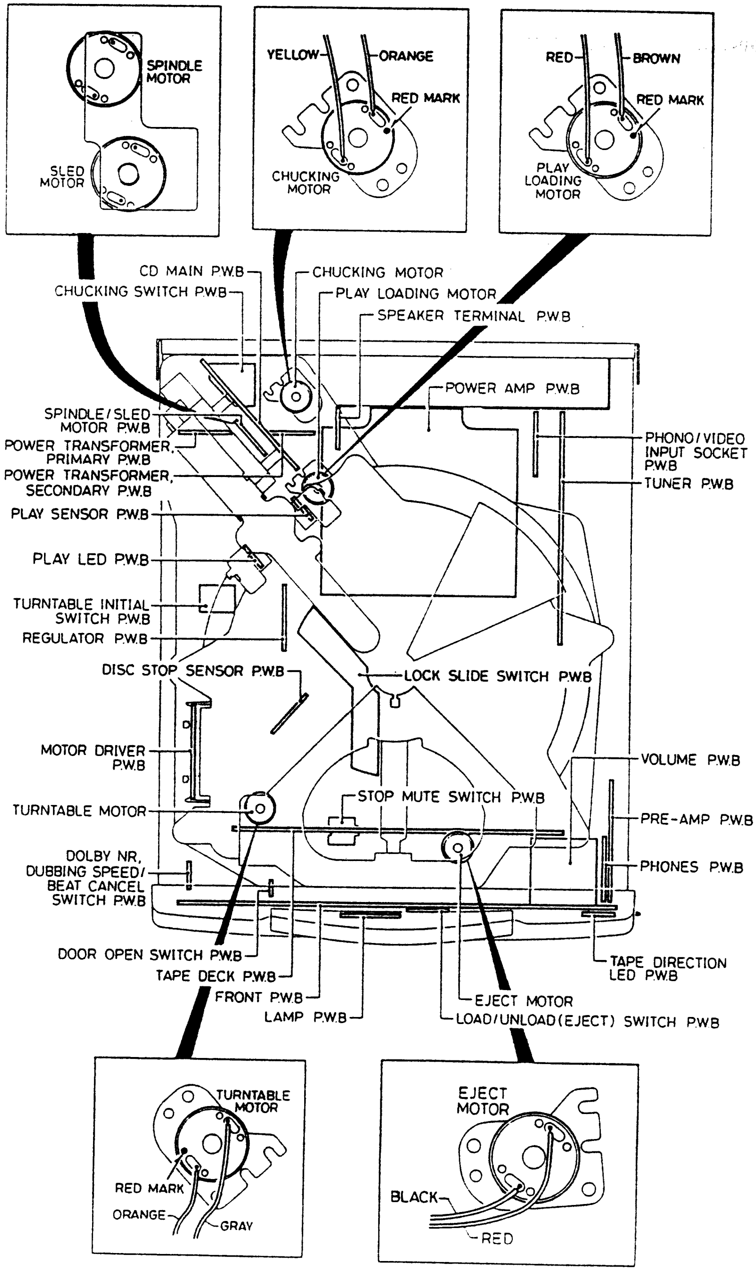
Apply MC-grease "EM-50L" to the places indicated in the diagram.

g. MOTOR & LOADING GEAR

- Apply MC-grease "EM-50L" to the places indicated in the diagram.


EM-50L
EM-50L
BOTTOM VIEW
▨ EM-50L
BOTTOM VIEW
▨ EM-50L
BOTTOM VIEW
▨ EM-50L
EM-50L
EM-50L
EM-50L
EM-50L
EM-50L
EM-50L

h. REPLACEMENT OF MOTOR (CD CHANGER MECHANISM)

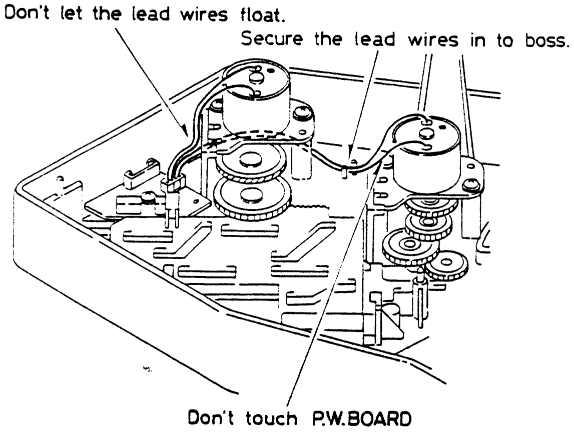

SPINDLE MOTOR
SLED MOTOR
YELLOW
ORANGE
RED MARK
CHUCKING MOTOR
RED
BROWN
RED MARK
PLAY LOADING MOTOR
CD MAIN P.W.B
CHUCKING SWITCH P.W.B
CHUCKING MOTOR
PLAY LOADING MOTOR
SPEAKER TERMINAL P.W.B
POWER AMP P.W.B
SPINDLE/SLED MOTOR P.W.B
POWER TRANSFORMER, PRIMARY P.W.B
POWER TRANSFORMER, SECONDARY P.W.B
PLAY SENSOR P.W.B
PLAY LED P.W.B
TURNTABLE INITIAL SWITCH P.W.B
REGULATOR P.W.B
DISC STOP SENSOR P.W.B
LOCK SLIDE SWITCH P.W.B
PHONO/VIDEO INPUT SOCKET P.W.B
TUNER P.W.B
MOTOR DRIVER P.W.B
TURNTABLE MOTOR
STOP MUTE SWITCH P.W.B
VOLUME P.W.B
PRE-AMP P.W.B
PHONES P.W.B
DOLBY NR, DUBBING SPEED/ BEAT CANCEL SWITCH P.W.B
DOOR OPEN SWITCH P.W.B
TAPE DECK P.W.B
FRONT P.W.B
LAMP P.W.B
EJECT MOTOR
LOAD/UNLOAD(EJECT) SWITCH P.W.B
TAPE DIRECTION LED P.W.B
TURNTABLE MOTOR
RED MARK
ORANGE
GRAY
EJECT MOTOR
BLACK
RED

REMOVAL AND INSTALLATION

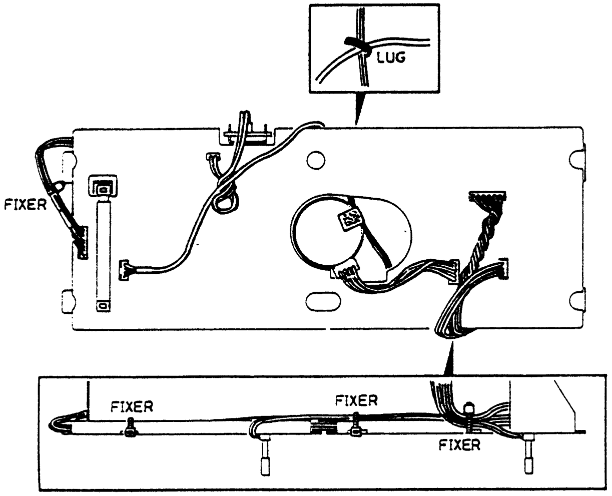
i. WIRING LAYOUT

- All wiring should be returned to the original position after work is completed.

(a) PLAY LOADING & CHUCKING MOTOR

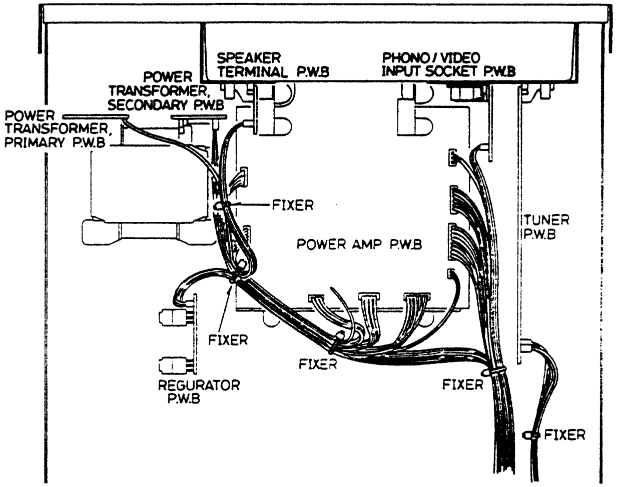

Don't let the lead wires float.
Secure the lead wires in to boss.
Don't touch P.W.BOARD

(b) TAPE MECHANISM

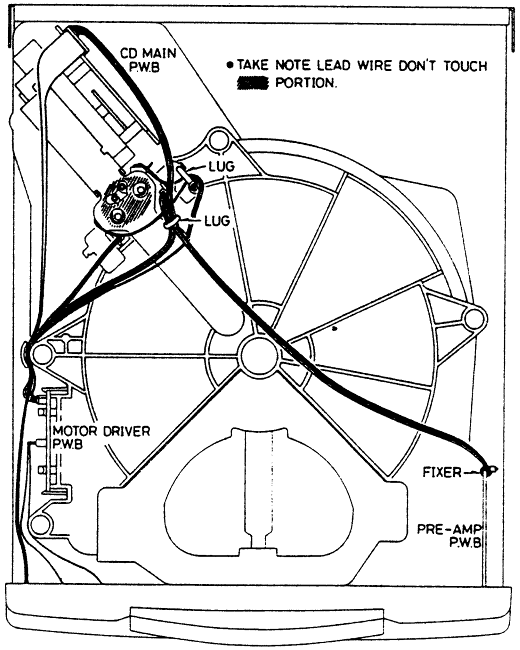

LUG
FIXER
FIXER
FIXER
FIXER

REMOVAL AND INSTALLATION

(c) POWER AMP.


SPEAKER TERMINAL P.W.B
PHONO / VIDEO INPUT SOCKET P.W.B
POWER TRANSFORMER, SECONDARY P.W.B
POWER TRANSFORMER, PRIMARY P.W.B
FIXER
POWER AMP P.W.B
TUNER P.W.B
FIXER
FIXER
REGURATOR P.W.B
FIXER
FIXER

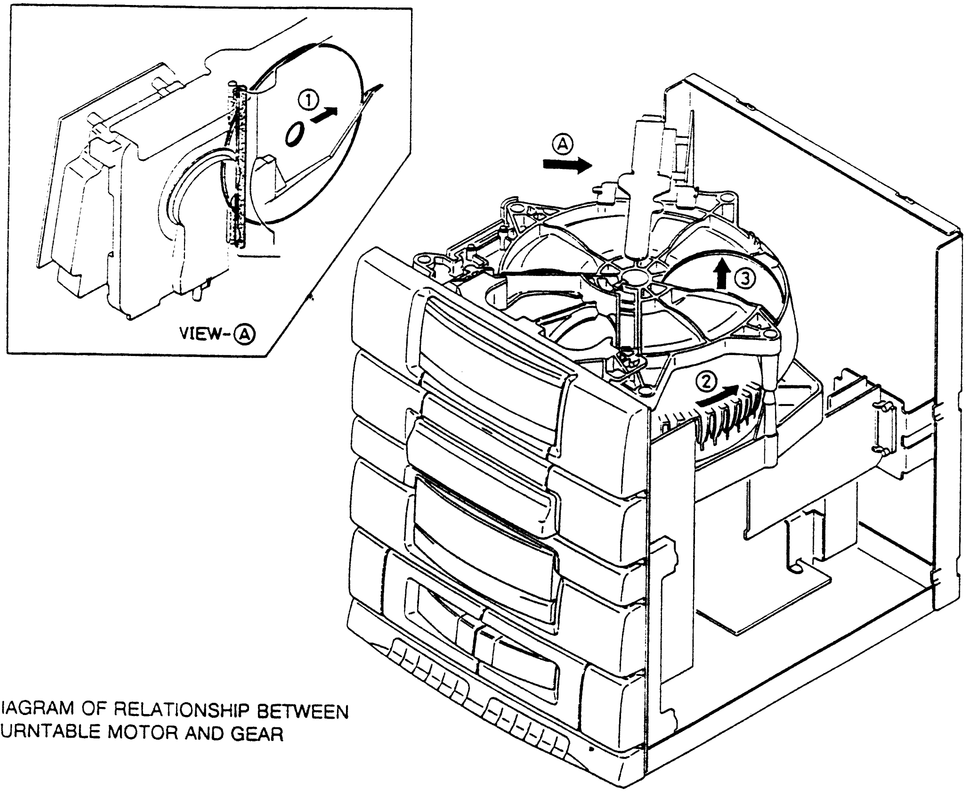
(d) CD CHANGER MECHANISM


CD MAIN P.W.B
● TAKE NOTE LEAD WIRE DON'T TOUCH ▨ PORTION.
LUG
LUG
MOTOR DRIVER P.W.B
FIXER
PRE-AMP P.W.B

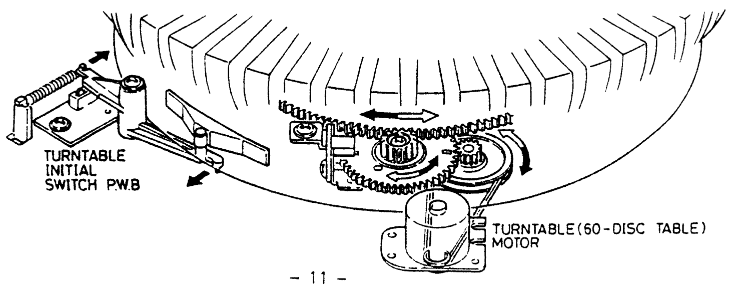
j. REMOVING CDS FROM 60-DISC TABLE (TURNTABLE)

- If the CDs cannot be removed

(1) Check the disc position.
(2) If the disc is stopped at position (①), push gently on the disc hole with your fingertip.
(3) If the disc is stopped at position (③), remove it.



- DIAGRAM OF RELATIONSHIP BETWEEN TURNTABLE MOTOR AND GEAR


TURNTABLE INITIAL SWITCH P.W.B
TURNTABLE(60-DISC TABLE) MOTOR

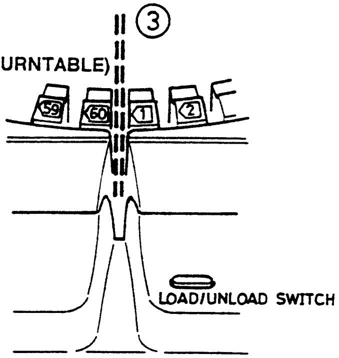
CD CHANGER MOVEMENT TEST

- When servicing CD changers, check the movement according to the following procedures. Find the malfunctioning location and check the surrounding parts.

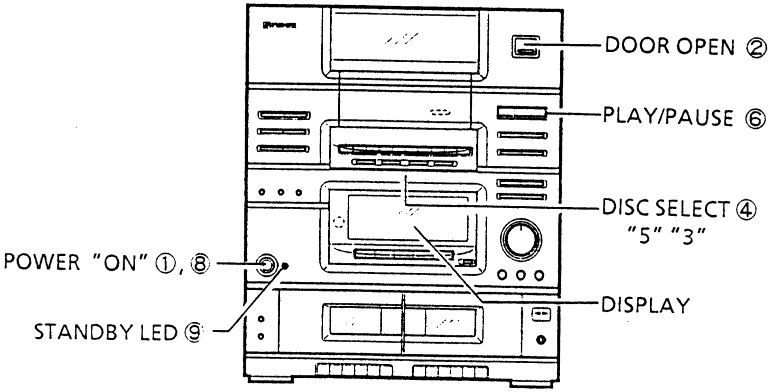
a. LOADING MECHANISM

MOVEMENT OF LOADING MECHANISM

No.	DESCRIPTION	NO.	DESCRIPTION
1	MECHANISM INITIAL OPERATION	8	CHUCKING "ON"
2	60-DISC TABLE TURNS TILL THE No.1 COMES TO FRONT	9	LOAD/UNLOAD BUTTON "ON"
		10	CHUCKING "OFF"
3	LOAD DISC	11	DISC MOVES TO DISC TABLE
4	PLAY BUTTON "ON"	12	DISC MOVES TO FRONT
5	DISC TABLE TURNS (BASE MECHANISM)	13	DISC "EJECT"
6	CHUCKING "OFF"	14	TAKE OUT DISC
7	DISC MOVES TO BASE MECHANISM		


③
60-DISC TABLE (TURNTABLE)
59
60
1
2
LOAD/UNLOAD SWITCH

(1) Prepare a test disc.
(2) Insert the power cord into the electrical outlet.
(3) Turn the POWER switch on. (①)
(4) Press the DOOR OPEN button. (②)
(5) Insure that the position of the disc table comes to No. 1 , as shown in the diagram. (③)
(6) Press "5" and "3" on the disc select switch. (④)


DOOR OPEN ②
PLAY/PAUSE ⑥
DISC SELECT ④
"5" "3"
DISPLAY
POWER "ON" ①, ⑧
STANDBY LED ⑨

CD CHANGER MOVEMENT TEST

(7) Insert the disc into position No. 53 of the disc table. (⑤)

(8) Press the PLAY/PAUSE key. (⑥)

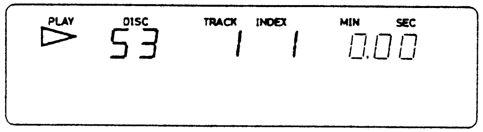
Insure that disc No. 53 is being played.

(9) Press the LOAD/UNLOAD key and remove the test disc. (⑦)

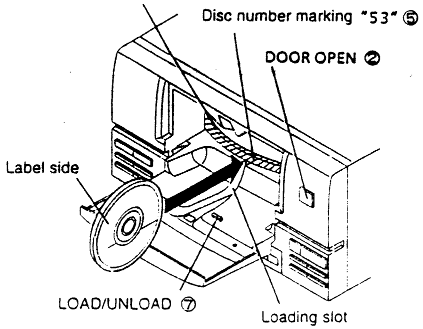
(10) Turn the POWER switch off.(⑧)

(11) Wait until the POWER STANDBY LED lights up. (⑨)

(12) Disconnect the power cord's plug from the electrical outlet.


PLAY
DISC
TRACK
INDEX
MIN
SEC
53
1
1
0.00

60-DISC TABLE (TURNTABLE)


Disc number marking "53" ⑤
DOOR OPEN ②
Label side
LOAD/UNLOAD ⑦
Loading slot

b. BASE MECHANISM

MOVEMENT OF BASE MECHANISM

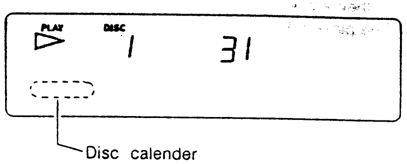
DISPLAY		DESCRIPTION
TRACK	INDEX	
0	0	FOCUS SEARCH "START"
0	1	FOCUS SEARCH "START"
0	2	WAITING FOR FOCUSING
0	3	FOCUSING
0	4	SPINDLE KICKING
0	5	CLV & TRACKING SERVO ARE "ON"
0	6	CLV & TRACKING SERVO ARE "ON"
0	F	FOCUS SEARCH "END"
1	0	SPINDLE BRAKE "START"
1	1	SPINDLE BRAKING
1	2	PICKUP RETURNING
1	F	PICKUP RETURN "COMPLETE"
2	0	FAST FORWARD
2	1	FAST REWIND
3	0	PLAY "START"
3	1	PLAYING
3	2	PLAYING (RECOVER FOR TRACK JUMP)
4	0	TOC READ "START"
4	1	TOC READING
4	F	TOC READ "COMPLETE"
5	•	ACCESS MOVEMENT
6	•	PAUSE MOVEMENT
7	•	FAST ACCESS MOVEMENT

CD CHANGER MOVEMENT TEST

(1) Insert the power cord into the socket.

(2) Set the CD changer to service mode.

- **Simultaneously press the ENTER CATEGORY "SUB" and STOP keys ①, and then press the "MEMORY" key within one second ②.**
  The CD changer will switch to service mode and the power will automatically turn on.

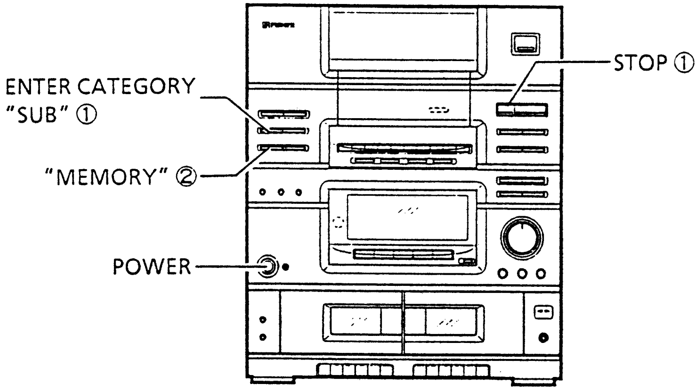

PLAY
DISC
1
31
Disc calender

(3) insert the disc into position No. 1 of the disc table.

(4) Press the PLAY key.

(5) The FL display indicates "1 31", etc.

(6) To cancel service mode, turn off the POWER switch.


STOP ①
ENTER CATEGORY "SUB" ①
"MEMORY" ②
POWER

ERROR INDICATIONS ("DISC CALENDER")

DISPLAY	REASON
	GOOD
1	FOCUSING IS "IMPOSSIBLE"
2	SUB-CODE CANNOT ENTER ON "DISC STARING"
3	TOC CANNOT "READ"
4	FOCUSING WAS LOST WHILE THE SERVO WAS "ON"
5	SUB-CODE CANNOT ENTER WHILE THE SERVO IS "ON"

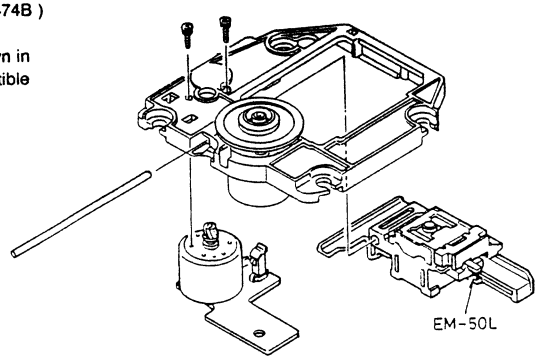
CD PLAYER ADJUSTMENTS

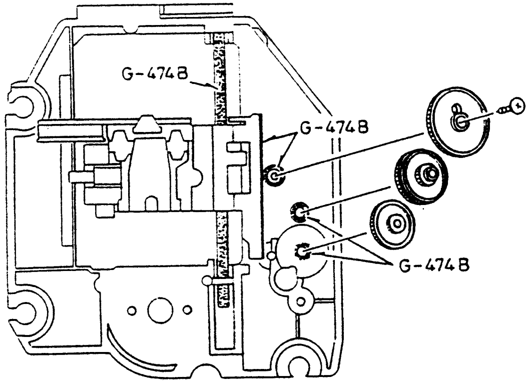
a. REPLACEMENT AND LUBRICATION OF THE PICKUP

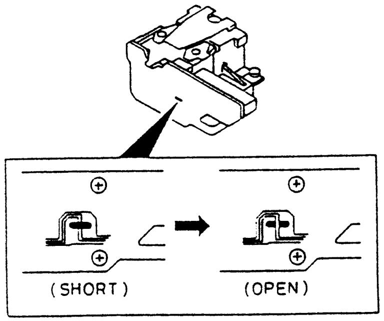
(1) If the pick-up is reconditioned or replaced, be sure to wipe the rails clean and also apply a coating of FLOIL (G-474B) to their entire circumference and entire length.

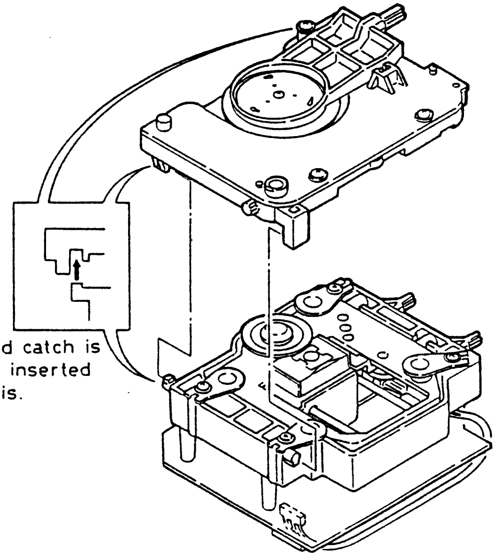
(2) The pick-up P.C.Board pattern is **"shorted"**, as shown in the figure , so that the new pick-up will not be susceptible to the effects of static.

(3) Set the pattern to **"open"** after the pick-up has been replaced.




G-474B
G-474B
G-474B





Confirm end catch is completely inserted into chassis.

CD PLAYER ADJUSTMENTS

b. PREPARATIONS

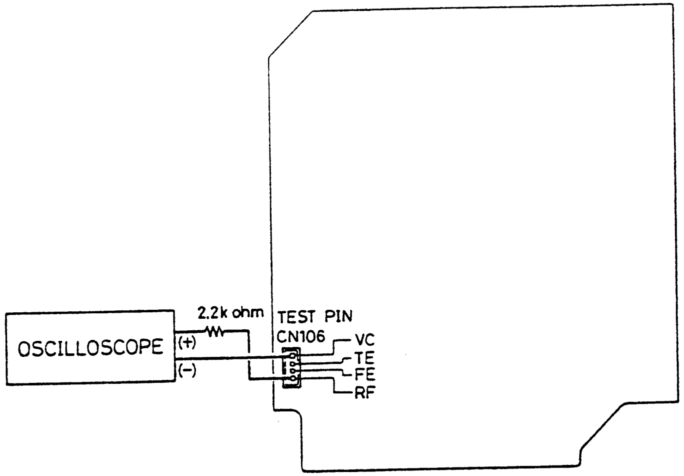
(a) Measuring instruments, tools

(1) Test disc. : YEDS 18 (SONY) or etc.

(2) Oscilloscope : SS5711 (10 MHz or dual-phenomenon) or Memoryscope : DSS6521 (Storagescope)

(3) Resistor, Carbon 2.2 K ohm, 1/4W

c. PARTS LOCATION


OSCILLOSCOPE
(+)
(−)
2.2k ohm
TEST PIN
CN106
VC
TE
FE
RF

d. CHECKING THE EYE PATTERN

(1) Switch ON the power.

(2) Connect an oscilloscope to CN106 (RF) and CN106 (VC).

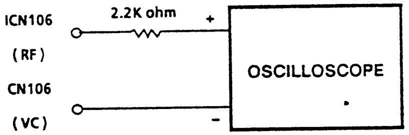
(3) Load the test disc.

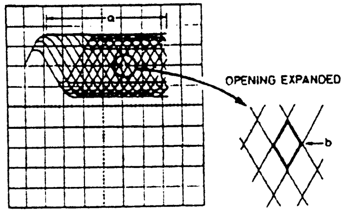
(4) PLAY switch push ON.

(5) Check to be sure that the " eye " pattern is at the center of waveform and that the diamond shape is clearly defined.

(6) Press the STOP button.center

(7) Switch OFF the power.


ICN106
(RF)
CN106
(VC)
2.2K ohm
+
−
OSCILLOSCOPE


a
OPENING EXPANDED
b

TAPE DECK ADJUSTMENTS

Adjustment Item	Test Tape	Measuring Instrument	Output connection	Adjust location	Adjust value	Note
(a) HEAD AZIMUTH *TAPE "1"*	VTT738 etc. *(10 kHz)*	AC-voltmeter	SPEAKER TERMINAL or TAPE OUT	HEAD AZIMUTH SCREW (FWD)	Max.	---
(b) HEAD AZIMUTH TAPE "2"	VTT738 etc. (10 kHz)	AC-voltmeter	SPEAKER TERMINAL or TAPE OUT	HEAD AZIMUTH SCREW (FWD / REVERSE)	Max.	---
(c) MOTOR SPEED (NORMAL)	MTT-111 (3,000 Hz)	FREQUENCY COUNTER	SPEAKER TERMINAL or TAPE OUT	VR309	3,000 Hz	CN305 TERMINALS "OPEN"
(d) MOTOR SPEED (HIGH)	TCW-211 (1,500 Hz)	FREQUENCY COUNTER	SPEAKER TERMINAL or TAPE OUT	Checking	3,000 Hz	CN305 TERMINALS "SHORT"

a. HEAD REPLACEMENT AND AZIMUTH ADJUSTMENT

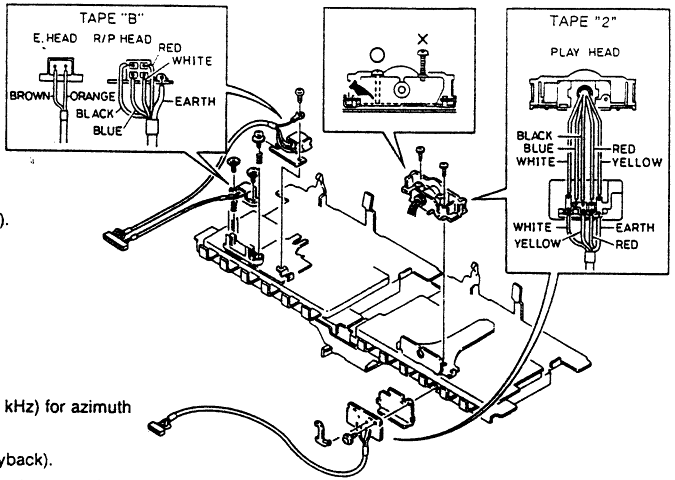
(a) Head replacement

(1) After replacement, demagnetize the heads by using a degausser.

(2) Be sure to clean the heads before attempting to make any adjustments.

(3) Be sure both channels (1 and 2) are the same level (Using a dual-channel oscilloscope).

(4) All wiring should be returned to the original position after work is completed.



(b) Head azimuth

- **TAPE "2"**

(1) Load a test tape (VTT-738, etc.: 10 kHz) for azimuth adjustment.

(2) Press the PLAY button (normal playback).

(3) Use a flat-tip (-) screwdriver to turn the screw for normal azimuth adjustment so that the left and right outputs are maximized at the same phase during normal playback.

(4) Press the tape direction lever.

(5) Play the tape in the reverse mode.

(6) Use a flat-to- (-) screwdriver to turn the screw for reverse azimuth adjustment so that the left and right outputs are maximized at the same phase during reverse playback.

(7) Press the STOP button.

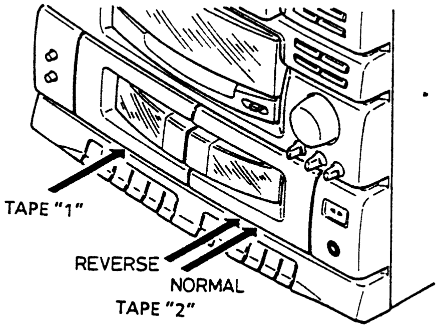
- **TAPE "1"**

(1) Load a test tape for azimuth adjustment.

(2) Press the PLAY button.

(3) Azimuth screw adjustment.

(4) Press the STOP button.

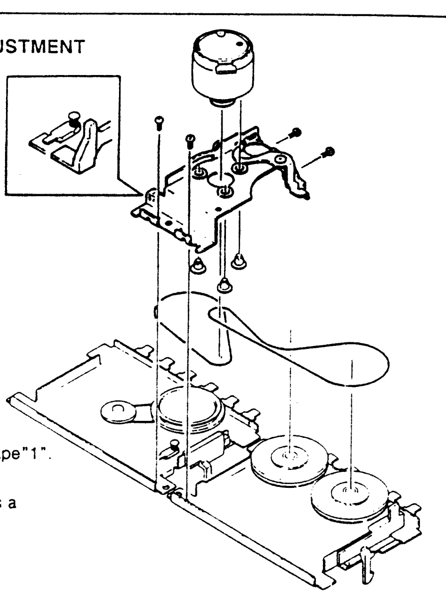


- After making the adjustment, secure the azimuth adjustment screw by applying screw lock (TB-1401B).

TAPE DECK ADJUSTMENTS

b. MOTOR REPLACEMENT AND SPEED ADJUSTMENT

(a) Motor replacement



(b) Motor speed

- **NORMAL SPEED**

(1) Insert the test tape (MTT-111, etc. 3,000 Hz) into Tape"1".

(2) Press Tape"1's" PLAY button.

(3) Adjust SVR309 so that the frequency counter shows a reading of 3,000Hz.

(4) Press Tape"1's " STOP button.

- **HIGH SPEED**

(1) Insert the test tape (TCW-211, etc. 1,500 Hz optional) into Tape"1".

(2) Press Tape"1's" PLAY button.

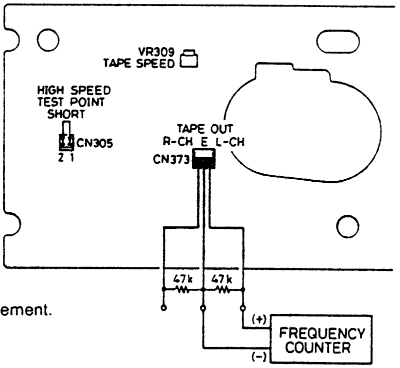
(3) Set to the high-speed condition.

(4) Short-circuit test points CN305 terminals.

(5) Checking the frequency counter reading is 3,000 Hz.

(6) Press Tape"1's" STOP button.

(7) After the completion of the adjustment, remove the short-circuit between CN305 terminals.



c. CHECKING THE MECHANISM TORQUES

- Clean the head, capstan and pinch roller before making any measurement.
- Check during both normal and reverse playback.

TAPE "1"

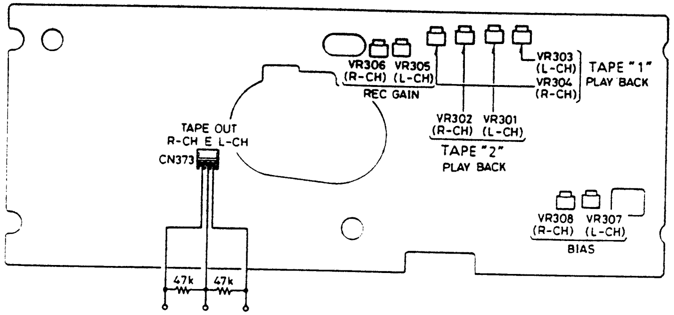
Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY:TW-2111A F.FWD/REW:TW-2231	PLAY:TW-2111A	Drive-power cassette TW-2412
PLAY	30~ 60 gr.cm	2.0~ 4.5 gr.cm	160 gr or more
F.FWD / REW	55~ 120 gr.cm	−	−

TAPE "2"

Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY:TW-2111A (FWD) PLAY:TW-2121A (REV) F.FWD/REW:TW-2231	PLAY:TW-2111A (FWD) PLAY:TW-2121A (REV)	Drive-power cassette TW-2412 (FWD) TW-2422 (REV)
PLAY	27~ 60 gr.cm	1.8~ 3.5 gr.cm	100 gr or more
F.FWD / REW	55~ 120 gr.cm	−	−

AMPLIFIER ADJUSTMENTS

- Make the following adjustments after first cleaning the head assembly and checking the adjustment of the head azimuth.



Adjustment Item	Test Tape	DOLBY NR SW.	Measuring Instrument	Input Connection	Output connection	Adjust location	Adjust value
(a) Playback output	TCC-130 (DOLBY TAPE)	OFF	AC-Voltmeter	—	TAPE OUT	(TAPE"2") SVR301 SVR302 (TAPE"1") SVR303 SVR304	580 mV
(b) Recording / Playback gain	AC-224 (NORMAL)	OFF	AC-Voltmeter AF-Oscillator	VIDEO - 23 dB, 1 kHz	TAPE OUT	(TAPE"1") SVR305 SVR306	400 mV
(c) Recording / Playback frequency response	AC-224 (NORMAL)	OFF	AC-Voltmeter AF-Oscillator	VIDEO - 43 dB, 1 kHz, 10 kHz	TAPE OUT	(TAPE"1") SVR307 SVR308	0 dB at 1 kHz and 10 kHZ

a. ADJUSTMENTS

(a) Playback output adjustment

Dolby NR switch : OFF

(1) TAPE "2"

Play the test tape and adjust SVR301 (L-CH) and SVR302 (R-CH) so that playback output becomes 580 mV.

(2) TAPE "1"

Play the test tape and adjust SVR303 (L-CH) and SVR304 (R-CH) so that playback output becomes 580 mV.

(b) Recording / Playback frequency gain adjustment

Input signal : - 23 dB, 1 kHz

Tape to be used : NORMAL (AC-224, etc.)

(1) Introduce input signals to the VIDEO terminals, and, with the unit in the REC. PAUSE mode, adjustment input level for 400 mV out.

(2) Record the input signal.

(3) Press the REWIND button and rewind tape to the beginning of the recording just made.

(4) Press the PLAY button.

(5) Adjust SVR305 (L-CH) and SVR306 (R-CH) so that the recording and playback output level differences become ± 1 dB.

(6) Repeat steps (1) to (5).

(c) Recording / Playback response adjustment

Input signal : - 43 dB, 1 kHz, 10 kHz

Tape to be used : NORMAL (AC-224, etc.)

(1) Introduce input signals to the VIDEO terminals.

(2) With the unit in the REC. mode.

Record these input signals (1 kHz → 10 kHz → 1 kHz → 10 kHz).

(3) Press the REWIND button and rewind tape to the beginning of the recording just made.

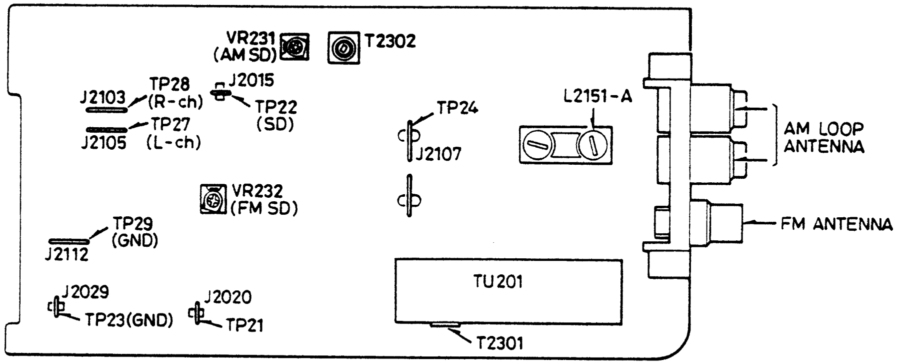
(4) Press the PLAY button.

(5) Adjust SVR307 (L-CH) and SVR308 (R-CH) so that the 10 kHz and 1 kHz and output level differences become ± 1 dB.

(6) Repeat steps (1) to (5).

TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments.
- Standard Output : 500 mW
- Speaker impedance : 8 ohm
- FM MODE switch : STEREO



SG RF Level : 75 ohm Open Voltage dBμV

Antenna : 75 ohm unbalanced (COAXIAL), Modulation : 1 kHz,

Dev. : ± 22.5 kHz (MONO) ± 22.5 kHz (MAIN) ± 6.75 kHz (PIL

a. ADJUSTMENTS OF FM BAND

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	—	Connect to Digital DC voltmeter TP 21 (H), TP 23 (G)	87.5 MHz	Low end	—	(1.1~2.0) (less than 9.0V
				108.0MHz	High end	—	
2	Tracking	FM Antenna	FM Antenna L-ch: TP27 (H), TP29 (G) R-ch: TP28 (H), TP29 (G)	90.0 MHz	90.0 MHz	— —	Max.
			FM Antenna TP27 (H), TP29 (G)	106.0 MHz	106.0 MHz	—	
3	0V	FM Antenna (SG = 66dBμV)	Connect to Digital DC voltmeter TP24 (H), TP25 (G)	98.0 MHz	98.0 MHz	T2302	0V ± 0.05V
4	SD (Auto Stop)	FM Antenna (SG = 26dBμV)	Connectto Digital DC voltmeter TP22 (H), TP23 (G)	98.0 MHz	98.0 MHz	VR232	Low Level
5	Separa-tion	FM Antenna (SG = 66dBμV)	FM Antenna TP27 (H), TP29 (G) TP28 (H), TP29 (G)	98.0 MHz	98.0 MHz	T2301	Max.

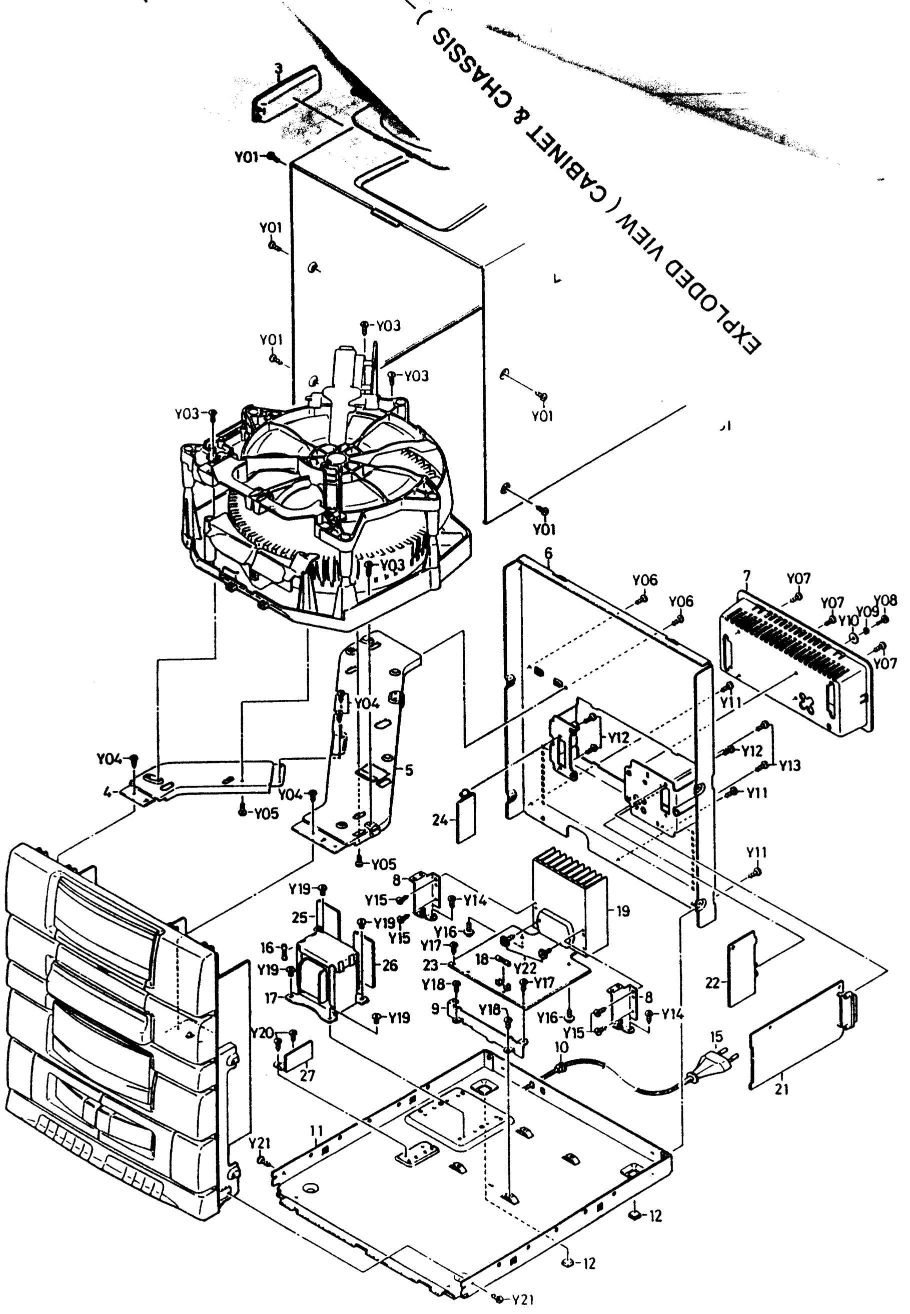
b. ADJUSTMENTS OF AM BAND

SG Modulation : 1,000 Hz, 30% IRE Loop Antenna

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP21 (H), TP23 (G)	522 kHz	Low end	—	(1.0~1.6V) (less than 8.5V)
				1611 kHz	High end	—	
2	Tracking	Connect AM SG to Test Loop	Connect to Digital DC voltmeter TP27 (H) or TP28 (H), TP29 (G)	603 kHz	603 kHz	L2151-A	---
				1404 kHz	1404 kHz	---	
3	SD (Auto Stop)	Connect AM SG to Test Loop (SG = 80dB...	Connect to Digital DC voltmeter TP22 (H), TP23 (G)	999 kHz	999 kHz	VR231	Low Level

EXPLODED VIEW (CABINET &

EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not available as service parts.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	614 272 4477	CARTON CASE
	614 266 6760	CUSHION,TOP
	614 266 6777	CUSHION,BOTTOM
	614 256 7449	SHEET,SET
	614 272 4590	OWNERS MANUAL
	614 231 6832	LABEL,SAFETY,CLASS 1
	614 232 0464	LABEL,SAFETY,CAUTION
	614 191 3698	LABEL,LASER,CAUTION MARK
	614 271 6014	LABEL,CAUTION,FOR P.L.
	614 229 4635	ANTENNA,FM
	645 005 1227	ASSY,ANTENNA,LOOP,AM
	645 008 5345	REMOCON,RB-REM-5060
	645 006 4654	LID,BATTERY,REMOTE CONTROL

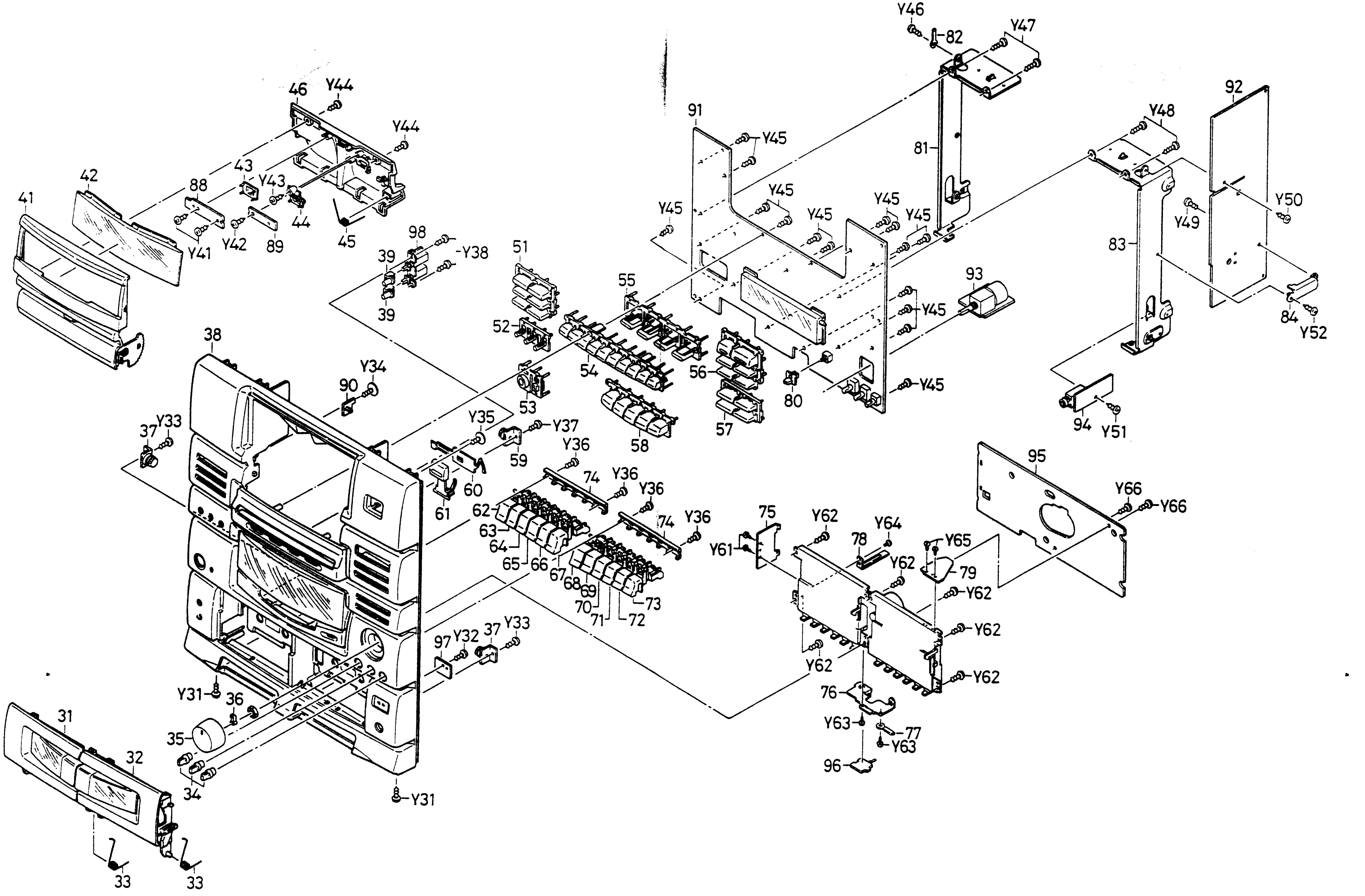
CABINET & CHASSIS

Ref. No.	Part No.	Description
1	614 266 6333	CABINET
2	614 270 7876	DEC,WINDOW,TOP
3	614 224 1264	HANDLE,CABINET
4	614 266 6517	HOLDER,BRACKET,CHASSIS(L)
5	614 266 6524	HOLDER,BRACKET,CHASSIS(R)
6	614 272 4323	PANEL,REAR
7	614 272 4255	COVER,REAR SOCKET
8	614 239 0559	BRACKET-M,HEAT SINK
9	614 266 6562	HOLDER,PWB,POWER AMP.
10	614 129 1901	FIXER,AC POWER CORD
11	614 266 6340	CABINET,BOTTOM
12	614 250 6721	FOOT,STAND
31	614 274 8480	ASSY,LID,CASSETTE,TAPE "1"
32	614 270 7661	ASSY,LID,CASSETTE,TAPE "2"
33	614 218 0051	SPRING,WIRE,LID,CASSETTE
34	614 266 6593	KNOB,ROTARY, BASS/TREBLE/BALANCE
35	614 266 6586	KNOB,ROTARY,VOLUME
36	614 266 6418	DEC,WINDOW,VOLUME
37	614 069 0385	GEAR ASSY,LID,CASSETTE
38	614 272 4194	ASSY,PANEL FRONT
39	614 266 6210	BUTTON,DOLBY NR,DUBBING SPEED/BEAT CANCEL,
41	614 272 4279	DOOR,CD-DOOR
42	614 266 6395	DEC,WINDOW,CD-DOOR,LARGE
43	614 267 9371	DEC,WINDOW,CD-DOOR,SMALL
44	614 266 6326	BUTTON,LOAD/UNLOAD (EJECT)
45	614 268 7888	SPRING,WIRE,CD DOOR OPEN
46	614 266 6364	COVER,CD-DOOR,REAR
51	614 266 6234	BUTTON,DISC SKIP/ENTER CATEGORY/MEMORY/CLEAR
52	614 266 6258	BUTTON,MEMORY/FM MODE/BAND
53	614 266 6296	BUTTON,POWER
54	614 266 6302	BUTTON,DISC SELECT
55	614 266 6272	BUTTON,DISC CHECK/REPEAT/ RANDOM/INTRO
56	614 266 6241	BUTTON,CD PLAY/STOP/SKIP/ SEARCH/CATEGORY SELECT
57	614 266 6265	BUTTON,TUNING/PRESET
58	614 266 6289	BUTTON,FUNCTION
59	614 069 0385	GEAR ASSY,CD DOOR
60	614 266 6623	LEVER,CD DOOR
61	614 266 6319	BUTTON,DOOR OPEN
62	614 266 6081	BUTTON,RECORD
63	614 266 6098	BUTTON,PLAY
64	614 266 6104	BUTTON,REW
65	614 266 6111	BUTTON,F.FWD
66	614 266 6128	BUTTON,STOP/EJECT
67	614 266 6135	BUTTON,PAUSE
68	614 266 6197	BUTTON,REVERSE
69	614 266 6203	BUTTON,PLAY
70	614 266 6159	BUTTON,REW
71	614 266 6166	BUTTON,F.FWD
72	614 266 6173	BUTTON,STOP/EJECT
73	614 266 6180	BUTTON,DIRECTION
74	614 225 1744	BRACKET-M,MECHANISM BUTTON
75	614 216 9230	BRACKET-E,TAPE MECHANISM, LEFT
76	614 250 0736	BRACKET-E,TAPE MECHANISM, LOWER
77	614 129 9341	LUG,LEAD FIX
78	614 250 0798	SPRING,PLATE,RECORD
79	614 216 9247	BRACKET-E,TAPE MECHANISM, UPPER
80	614 266 6227	BUTTON,DYNAMIC BASS
81	614 269 6965	MOUNTING,BRACKET, FRONT-CABINET(L)
82	614 129 9136	LUG,GROUND
83	614 266 6630	MOUNTING,BRACKET, FRONT-CABINET(R)
84	614 266 6531	HOLDER,PRE-AMP. PWB
	614 208 0986	CUSHION,10X40MM
	614 129 4971	FIXER,LEAD MTG.

FIXING PARTS

Ref. No.	Part No.	Description
Y01	411 021 6603	SCR S-TPG BIN 3X8MM,CABINET
Y02	411 021 6603	SCR S-TPG BIN 3X8MM, CABINET WINDOW
Y03	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, ROTARY CHANGER MECHANISM
Y04	411 021 6405	SCR S-TPG BIN 3X8MM, HOLDER BRACKET
Y05	411 021 6405	SCR S-TPG BIN 3X8MM, HOLDER BRACKET
Y06	411 021 6405	SCR S-TPG BIN 3X8MM, REAR-HOLDER,BRACKET
Y07	411 021 6405	SCR S-TPG BIN 3X8MM, REAR-COVER

EXPLODED VIEW (CABINET & CHASSIS)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PARTS LIST

Ref. No.	Part No.	Description
Y08	411 098 0801	SCR S-TPG BIN 3X14MM, PHONO GND
Y09	411 008 0402	WASHER OUT TW 3X6.5X0.45MM, PHONO GND
Y10	411 105 9704	WASHER Z 3X10X1MM,PHONO GND
Y11	411 021 6405	SCR S-TPG BIN 3X8MM, BOTTOM-REAR
Y12	411 021 6405	SCR S-TPG BIN 3X8MM, VIDEO/SPEAKER SOCKET
Y13	411 021 6405	SCR S-TPG BIN 3X8MM, ANTENNA SOCKET,TUNER
Y14	411 021 6405	SCR S-TPG BIN 3X8MM, BUTTOM-HOLDER(HEATSINK)
Y15	411 021 6405	SCR S-TPG BIN 3X8MM, HOLDER-HEAT SINK
Y16	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, HOLDER-MAIN PWB
Y17	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, HOLDER-MAIN PWB
Y18	411 021 6405	SCR S-TPG BIN 3X8MM, BUTTOM-HOLDER
Y19	411 021 9109	SCR S-TPG BIN 4X6MM, POWER TRANSFORMER
Y20	411 021 5705	SCR S-TPG BIN 3X6MM, REGULATOR PWB
Y21	411 021 6405	SCR S-TPG BIN 3X8MM, BUTTOM-MOUNTING
Y22	411 074 0603	SCR TPG PAN+FLG 3X16MM, POWER IC-HEAT SINK
Y31	411 021 6405	SCR S-TPG BIN 3X8MM, FRONT MOUNTING,BOTTOM
Y32	411 021 6405	SCR S-TPG BIN 3X8MM, TAPE DIRECTION LED PWB
Y33	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT GEAR ASSY
Y34	412 032 6408	SPECIAL SCREW,CD DOOR SW
Y35	412 003 1708	SPECIAL SCREW,LEVER FIX
Y36	411 021 6405	SCR S-TPG BIN 3X8MM,TAPE MECHANISM BUTTON BRACKET
Y37	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT GEAR ASSY
Y38	411 021 6405	SCR S-TPG BIN 3X8MM, DOLBY NR/DUBBING SPEED/ BEAT CANCEL
Y41	411 021 6405	SCR S-TPG BIN 3X8MM,LAMP PWB
Y42	411 021 6405	SCR S-TPG BIN 3X8MM,LOAD PWB
Y43	411 021 6405	SCR S-TPG BIN 3X8MM, LOAD BUTTON
Y44	411 021 6603	SCR S-TPG BIN 3X8MM, DOOR-COVER
Y45	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT PWB FIX
Y46	411 021 6405	SCR S-TPG BIN 3X8MM,LUG
Y47	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT PWB FIX,LEFT
Y48	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT PWB FIX,RIGHT
Y49	411 021 6405	SCR S-TPG BIN 3X8MM, PRE-AMP PWB
Y50	411 021 6405	SCR S-TPG BIN 3X8MM, PRE-AMP PWB
Y51	411 021 6405	SCR S-TPG BIN 3X8MM, PHONES SOCKET PWB
Y52	411 021 6405	SCR S-TPG BIN 3X8MM, PRE-AMP PWB
Y61	411 028 2905	SCR S-TPG PAN 2X4MM, TAPE MECHANISM BRACKET,LEFT
Y62	411 021 6405	SCR S-TPG BIN 3X8MM, TAPE MECHANISM BRACKET,RIGHT
Y63	411 028 2905	SCR S-TPG PAN 2X4MM, TAPE MECHANISM BRACKET
Y64	411 028 2905	SCR S-TPG PAN 2X4MM, RECORD,SPRING PLATE
Y65	411 028 2905	SCR S-TPG PAN 2X4MM, TAPE MECHANISM BRACKET,UPPER
Y66	411 021 6405	SCR S-TPG BIN 3X8MM, TAPE DECK PWB

ELECTRICAL PARTS

Ref. No.	Part No.	Description
15	⚠614 255 2513	POWER CORD,AC
or	⚠614 023 3148	POWER CORD,AC
or	⚠614 233 8971	POWER CORD,AC
16	⚠423 017 0106	FUSE 250V 1.6A, FU490
17	⚠645 011 9590	TRANSFORMER,POWER
18	⚠423 016 7809	FUSE 250V 2A, FU491
19	614 270 8040	HEAT SINK,POWER AMP.
CN313	614 249 4691	ASSY,CONNECTOR-S,6P TAPE MECHANISM LEAD(CN303)
CN314	614 249 4684	ASSY,CONNECTOR-S,3P TAPE SELECT LEAD (CN304)
CN900	645 010 2783	FLEXIBLE FLAT CABLE,15P FRONT-CD MAIN(CN131-CN103)
CN901	645 010 2790	FLEXIBLE FLAT CABLE,21P FRONT-MOTOR DRIVER (CN130-CN156)
CN902	614 270 0686	ASSY,CONNECTOR-S,2P, CD-MAIN AMP(CN104-CN463)
CN903	614 269 9461	ASSY,WIRE,4P,CD MAIN-PRE AMP (CN105-CN402)
CN904	614 270 0709	ASSY,CONNECTOR-S,4P, FRONT-TUNER (CN232-CN242)
CN905	614 270 0716	ASSY,CONNECTOR-S,5P, PRE-AMP-TUNER (CN403-CN241)

TUNER P.W.BOARD ASSY

Ref. No.	Part No.	Description
21	614 271 4966	ASSY,PWB,TUNER
C2463	403 106 1603	NP-ELECT 1U Q 50V
CF221	614 254 3214	FILTER,FM
or	614 240 2917	FILTER,FM
CF222	614 254 3214	FILTER,FM
or	614 240 2917	FILTER,FM
CF231	614 246 0849	FILTER,AM
CF232	614 253 4618	FILTER,AM
CN201	614 255 5750	TERMINAL,ANTENNA
CN241	645 005 9292	PLUG,5P
CN242	645 005 8110	PLUG,4P

PARTS LIST

Ref. No.	Part No.	Description
D2153	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2451	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2452	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
IC231	409 329 3707	IC LA1836
IC245	409 066 7600	IC LM7001
L2151	645 005 6734	TUNER,AM
L2451	645 001 4581	INDUCTOR,100U K
Q2140	405 011 7503	TR 2SC1740-S
or	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
Q2201	405 018 7902	TR 2SC380TM-O
Q2302	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 7503	TR 2SC1740-S
or	405 017 9709	TR 2SC3330-U
Q2393	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2461	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 7503	TR 2SC1740-S
or	405 017 9709	TR 2SC3330-U
Q2462	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 7503	TR 2SC1740-S
or	405 017 9709	TR 2SC3330-U
Q2491	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
T2302	645 005 0084	TRANSFORMER,IF 10.7MHZ
TU201	614 241 7447	TUNER,FM
VR231	614 250 7254	POTENTIOMETER,20K
or	645 006 2421	VR,SEMI,20K N
VR232	614 250 7247	POTENTIOMETER,10K
or	645 001 9319	VR,SEMI,10K N
X2301	614 246 0870	RESONATOR
X2451	614 229 2457	CRYSTAL,7.2MHZ
or	614 204 0317	CRYSTAL,7.2MHZ
or	614 240 1118	RESONATOR,7.2MHZ

PHONO/VIDEO INPUT SOCKET P.W.BOARD ASSY

Ref. No.	Part No.	Description
22	614 273 3455	ASSY,PWB,PHONO/VIDEO INPUT SOCKET
CN401	614 249 8620	SOCKET,4P
CN405	614 020 6593	SOCKET,7P
CN480	614 211 3363	SOCKET,7P,CN405-CN406 CONNECTION
IC401	409 211 6601	IC NJM4558L

POWER AMPLIFIER P.W.BOARD ASSY

Ref. No.	Part No.	Description
23	614 273 3394	ASSY,PWB,POWER AMP
	411 021 5705	SCR S-TPG BIN 3X6MM,Q4911 MTG.
C4706	403 057 3800	POLYESTER 0.1U M 50V
C4707	403 057 3800	POLYESTER 0.1U M 50V
C4806	403 057 3800	POLYESTER 0.1U M 50V
C4807	403 057 3800	POLYESTER 0.1U M 50V
C4901	403 200 0502	ELECT 3300U M 50V
C4902	403 200 0502	ELECT 3300U M 50V
C4903	403 189 4706	ELECT 4700U M 35V
C4912	403 086 8500	NP-ELECT 47U M 50V
CN450	645 004 2898	PLUG,3P
CN451	614 020 6586	SOCKET,6P
CN452	614 020 6609	SOCKET,8P
CN453	614 020 6579	SOCKET,5P
CN454	614 020 1239	SOCKET,4P
CN457	614 020 1222	SOCKET,3P
CN458	614 020 1239	SOCKET,4P
CN461	614 020 6586	SOCKET,6P
CN463	645 005 7366	PLUG,2P
CN482	614 211 3271	SOCKET,5P, CN453-CN411 CONNECTION
CN483	614 269 9713	SOCKET,6P, CN451-CN410 CONNECTION
CN484	614 241 1827	SOCKET,8P,300MM
D4701	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4801	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4901	⚠407 141 2809	DIODE IN5402
D4902	⚠407 141 2809	DIODE IN5402
D4903	⚠407 141 2809	DIODE IN5402
D4904	⚠407 141 2809	DIODE IN5402
D4905	⚠407 107 6001	DIODE RL203-BD80
D4906	⚠407 107 6001	DIODE RL203-BD80
D4907	⚠407 107 6001	DIODE RL203-BD80
D4908	⚠407 107 6001	DIODE RL203-BD80
D4909	407 063 8903	ZENER DIODE MTZJ5.6C
D4910	407 099 6003	ZENER DIODE MTZJ9.1B
D4911	407 100 0105	ZENER DIODE MTZJ33D
D4914	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4915	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4916	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4917	407 099 5204	ZENER DIODE MTZJ5.1B
D4920	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4921	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4922	407 099 5204	ZENER DIODE MTZJ5.1B
D4923	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
FPC01	645 006 4760	HOLDER,FUSE
FPC02	645 006 4760	HOLDER,FUSE

Ref. No.	Part No.	Description
HS001	614 261 0589	HEAT SINK
IC450	⚠409 047 1405	IC STK4192MK2
Q4701	405 033 6805	TR 2SD1468S-S
or	405 021 0600	TR 2SD1012-G-SPA
or	405 016 2305	TR 2SC2878-B
Q4702	405 016 3302	TR 2SC2909-S
Q4801	405 033 6805	TR 2SD1468S-S
or	405 021 0600	TR 2SD1012-G-SPA
or	405 016 2305	TR 2SC2878-B
Q4802	405 016 3302	TR 2SC2909-S
Q4904	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4905	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4906	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
Q4907	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4908	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4909	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4910	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4911	405 035 7107	TR 2SD1913-R
or	405 035 7206	TR 2SD1913-S
R4706	401 008 7204	CARBON 2.2K JB 1/2W
R4711	401 010 5601	CARBON 5.6 JB 1/2W
R4712	614 242 0126	RESISTOR 0.22 K- 3W
R4811	401 010 5601	CARBON 5.6 JB 1/2W
R4812	614 242 0126	RESISTOR 0.22 K- 3W
R4906	⚠402 048 4604	RESISTOR 390 J- 1W
R4915	⚠402 023 1703	FUSIBLE RES 100 J- 1/4W
R4918	⚠402 023 1703	FUSIBLE RES 100 J- 1/4W
RY450	614 224 4531	RELAY
RY451	614 224 4531	RELAY

SPEAKER TERMINAL P.W.BOARD ASSY

Ref. No.	Part No.	Description
24	614 273 3424	ASSY,PWB,SPEAKER TERMINAL
C1	403 057 1202	POLYESTER 0.01 U M 50V
C2	403 057 1202	POLYESTER 0.01 U M 50V
C3	403 062 5905	POLYESTER 5600P M 50V
C4	403 062 5905	POLYESTER 5600P M 50V
CN455	614 020 1239	SOCKET,4P
CN456	645 008 5314	TERMINAL

POWER TRANSFORMER, PRIMARY P.W.BOARD ASSY

Ref. No.	Part No.	Description
25	614 273 3400	ASSY,PWB,POWER TRANSFORMER, PRIMARY
CN001	614 017 6964	TERMINAL BOARD,1P
CN002	614 017 6964	TERMINAL BOARD,1P
FPC03	645 006 4760	HOLDER,FUSE
FPC04	645 006 4760	HOLDER,FUSE
L4900	⚠614 229 0439	INDUCTOR,FERITE

POWER TRANSFORMER, SECONDARY P.W.BOARD ASSY

Ref. No.	Part No.	Description
26	614 273 3417	ASSY,PWB,POWER TRANSFORMER, SECONDARY
CN459	614 020 1222	SOCKET,3P
CN460	614 020 1239	SOCKET,4P

REGULATOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
27	614 273 3431	ASSY,PWB,REGULATOR
CN462	614 020 6586	SOCKET,6P
or	614 223 9247	SOCKET,6P
D4912	407 099 6607	ZENER DIODE MTZJ12B
D4924	407 099 6607	ZENER DIODE MTZJ12B
Q4901	405 035 7107	TR 2SD1913-R
or	405 035 7206	TR 2SD1913-S
Q4902	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4903	405 035 7107	TR 2SD1913-R
or	405 035 7206	TR 2SD1913-S
Q4912	405 131 8206	TR DTC115ES
Q4913	405 077 9008	TR TIP29B

LAMP P.W.BOARD ASSY

Ref. No.	Part No.	Description
88	614 266 5732	ASSY,PWB,LAMP
CN140	614 269 9430	ASSY,CONNECTOR-S
CN141	614 035 4911	SOCKET,DIP 2P
or	614 237 9752	SOCKET,2P
PL171	614 253 4687	LAMP,8V,100MA
or	614 255 8157	LAMP,8V,100MA

LOAD / UNLOAD (EJECT) SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
89	614 266 5718	ASSY,PWB,LOAD/UNLOAD(EJECT) SWITCH
CN142	614 035 4911	SOCKET,DIP 2P
or	614 237 9752	SOCKET,2P
S1740	645 006 5958	SWITCH,PUSH 1P-1T, LOAD/UNLOAD(EJECT)

DOOR OPEN SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
90	614 266 5725	ASSY,PWB,DOOR OPEN SWITCH
CN143	614 269 9423	ASSY,CONNECTOR-S
S1741	614 249 1355	SWITCH,LEVER,DOOR OPEN

FRONT P.W.BOARD ASSY

Ref. No.	Part No.	Description
91	614 273 3363	ASSY,PWB,FRONT
	614 266 6579	HOLDER
CN130	614 227 7768	SOCKET,21P
CN131	614 227 7720	SOCKET,15P
CN132	645 005 8226	PLUG,3P
CN133	645 006 0908	PLUG,2P
CN232	645 006 0915	PLUG,4P
CN301	614 211 3233	SOCKET,5P
CN396	614 020 6579	SOCKET,5P
or	614 223 9230	SOCKET,5P
CN397	614 035 4935	SOCKET,DIP 4P
or	614 237 9776	SOCKET,4P
CN420	614 221 9089	SOCKET,8P
CN421	614 221 9089	SOCKET,8P
CN422	614 221 9072	SOCKET,7P
CN423	614 221 9133	SOCKET,13P
D1301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1305	408 021 2902	LED SLZ-135B-19-AB
D1310	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1311	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1312	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1313	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1314	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1316	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1700	407 138 4700	PHOTO DIODE SPS-420-1
D4973	407 099 5204	ZENER DIODE MTZJ5.1B
FL171	645 008 7035	FLUORESCENT TUBE
IC111	410 233 0409	IC CXP82432A-115Q
IC112	409 351 4307	IC ST24C16CB1
or	410 225 5801	IC AT24C16-10PC
IC406	409 211 6601	IC NJM4558L
Q1301	405 000 4407	TR DTC124ES
or	405 078 2800	TR BA1F4M
or	405 001 0309	TR RN1203
Q1302	405 075 7600	TR DTA114TS
Q1320	405 000 4407	TR DTC124ES
or	405 078 2800	TR BA1F4M
or	405 001 0309	TR RN1203
Q1321	405 000 4407	TR DTC124ES
or	405 078 2800	TR BA1F4M
or	405 001 0309	TR RN1203
Q4950	405 000 3806	TR DTC114YS
Q4951	405 000 0904	TR DTA114YS
Q4952	405 000 3806	TR DTC114YS
Q4953	405 000 0904	TR DTA114YS
Q4954	405 000 3806	TR DTC114YS
Q4955	405 000 0904	TR DTA114YS
S1701	645 006 5958	SWITCH,PUSH 1P-1T, TUNING "DOWN"
S1702	645 006 5958	SWITCH,PUSH 1P-1T, TUNING "UP"
S1703	645 006 5958	SWITCH,PUSH 1P-1T, TUNING,PRESET "UP"
S1704	645 006 5958	SWITCH,PUSH 1P-1T, TUNING,PRESET "DOWN"
S1705	645 006 5958	SWITCH,PUSH 1P-1T,VIDEO
S1706	645 006 5958	SWITCH,PUSH 1P-1T,PHONO
S1707	645 006 5958	SWITCH,PUSH 1P-1T,TUNER
S1708	645 006 5958	SWITCH,PUSH 1P-1T,TAPE
S1709	645 006 5958	SWITCH,PUSH 1P-1T,CD
S1710	645 006 5958	SWITCH,PUSH 1P-1T,POWER
S1711	645 006 5958	SWITCH,PUSH 1P-1T,CATEGORY SELECT "SUB"
S1712	645 006 5958	SWITCH,PUSH 1P-1T, CATEGORY SELECT "MAIN"
S1713	645 006 5958	SWITCH,PUSH 1P-1T, SKIP/SEARCH "FWD"
S1714	645 006 5958	SWITCH,PUSH 1P-1T,PLAY/PAUSE
S1715	645 006 5958	SWITCH,PUSH 1P-1T,STOP
S1716	645 006 5958	SWITCH,PUSH 1P-1T, SKIP/SEATCH "BACK"
S1717	645 006 5958	SWITCH,PUSH 1P-1T,INTRO
S1718	645 006 5958	SWITCH,PUSH 1P-1T,RANDOM
S1719	645 006 5958	SWITCH,PUSH 1P-1T,REPEAT
S1720	645 006 5958	SWITCH,PUSH 1P-1T,DISC CHECK
S1721	645 006 5958	SWITCH,PUSH 1P-1T,"0"
S1722	645 006 5958	SWITCH,PUSH 1P-1T,"9"
S1723	645 006 5958	SWITCH,PUSH 1P-1T,"8"
S1724	645 006 5958	SWITCH,PUSH 1P-1T,"7"
S1725	645 006 5958	SWITCH,PUSH 1P-1T,"6"
S1726	645 006 5958	SWITCH,PUSH 1P-1T,"5"
S1727	645 006 5958	SWITCH,PUSH 1P-1T,"4"
S1728	645 006 5958	SWITCH,PUSH 1P-1T,"3"
S1729	645 006 5958	SWITCH,PUSH 1P-1T,"2"
S1730	645 006 5958	SWITCH,PUSH 1P-1T,"1"
S1731	645 006 5958	SWITCH,PUSH 1P-1T,"BAND"
S1732	645 006 5958	SWITCH,PUSH 1P-1T,"FM MODE"
S1733	645 006 5958	SWITCH,PUSH 1P-1T, TUNING "MEMORY"
S1734	645 006 5958	SWITCH,PUSH 1P-1T, DISC SKIP "DOWN"
S1735	645 006 5958	SWITCH,PUSH 1P-1T, ENTER CATEGORY "SUB"
S1736	645 006 5958	SWITCH,PUSH 1P-1T,CD MEMORY
S1737	645 006 5958	SWITCH,PUSH 1P-1T,CLEAR
S1738	645 006 5958	SWITCH,PUSH 1P-1T, ENTER CATEGORY "MAIN"
S1739	645 006 5958	SWITCH,PUSH 1P-1T, DISC SKIP "UP"
S4001	614 248 7105	SWITCH,PUSH,DYNAMIC BASS
VR401	645 008 5383	VR,ROTARY 250KWX1,BALANCE
VR402	645 008 5338	VR,ROTARY 50KBX2,BASS
VR403	645 008 5338	VR,ROTARY 50KBX2,TREBLE
X1301	614 215 5561	RESONATOR,CERAMIC,4.19MHZ

PRE - AMPLIFIER P.W.BOARD ASSY

Ref. No.	Part No.	Description
92	614 273 3387	ASSY,PWB,PRE-AMP
CN402	645 005 8110	PLUG,4P
CN403	645 005 9292	PLUG,5P

Ref. No.	Part No.	Description
CN404	645 012 4907	PLUG,8P
CN406	645 004 2935	PLUG,7P
CN407	614 020 6616	SOCKET,9P
CN409	645 004 2942	PLUG,8P
CN410	645 004 2928	PLUG,6P
CN413	645 012 4891	PLUG,7P
CN414	645 009 1056	PLUG,13P
CN485	614 244 0155	SOCKET,9P,150MM
D4550	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4650	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4919	407 063 9504	ZENER DIODE MTZJ8.2B
D4990	407 099 5204	ZENER DIODE MTZJ5.1B
IC402	409 336 0508	IC BU4052BC
IC403	409 336 0508	IC BU4052BC
IC404	409 211 6601	IC NJM4558L
IC405	409 211 6601	IC NJM4558L
IC407	409 114 4803	IC LB1641
Q1502	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q1503	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q1504	405 082 4609	TR DTA123YS
Q4501	405 033 6805	TR 2SD1468S-S
Q4502	405 027 0505	TR 2SK246-GR
Q4503	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q4601	405 033 6805	TR 2SD1468S-S
Q4602	405 027 0505	TR 2SK246-GR
Q4603	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
R4972	⚠402 004 4303	FUSIBLE RES 10 J- 1/4W

VOLUME P.W.BOARD ASSY

Ref. No.	Part No.	Description
93	614 273 3448	ASSY,PWB,VOLUME
CN425	614 020 1222	SOCKET,3P
CN426	614 225 6404	PLUG,8P
CN481	614 211 3028	SOCKE,3P,CN425-CN450 CONNECTION
VR404	645 009 0301	VR,ROTARY 100KBX2, VOLUME CONTROL

PHONES P.W.BOARD ASSY

Ref. No.	Part No.	Description
94	614 273 3370	ASSY,PWB,PHONES
CN411	645 004 2911	PLUG,5P
CN461	645 009 0042	JACK,PHONE D6.43
R4714	401 009 5506	CARBON 330 JB 1/2W
R4814	401 009 5506	CARBON 330 JB 1/2W

TAPE DECK P.W.BOARD ASSY

Ref. No.	Part No.	Description
95	614 268 8007	ASSY,PWB,TAPE DECK
C3303	403 058 9108	POLYESTER 0.018U J 50V
C3304	403 058 1102	POLYESTER 1500P K 50V
CN301	645 004 2959	PLUG,9P
CN302	645 004 2911	PLUG,5P
CN303	645 004 2928	PLUG,6P,MECHANISM SWITCH
CN304	645 004 2898	PLUG,3P, TAPE SELECT SWITCH SOCKET
CN305	645 012 5829	PLUG,2P, HIGH SPEED TEST POINT
CN306	614 223 9223	SOCKET,4P,MOTOR LEAD
or	614 020 6562	SOCKET,4P,MOTOR LEAD
CN307	614 020 6548	SOCKET,2P,STOP SWITCH PWB
or	614 223 9209	SOCKET,2P,STOP SWITCH PWB
CN308	614 229 2471	PLUG,3P,DIRECTION
CN371	645 005 8110	PLUG,4P,TAPE-A HEAD LEAD
CN372	645 006 0861	PLUG,7P,TAPE-B HEAD LEAD
CN373	645 005 9650	SOCKET,3P,TAPE OUT
D3101	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3102	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3105	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3106	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3107	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3109	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3110	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3111	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3112	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3113	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041

Ref. No.	Part No.	Description
D3114	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
IC351	409 270 2101	IC HA12136AT
or	409 199 1209	IC HA12136A
IC370	409 121 8702	IC LA3246
IC371	409 207 1900	IC MLC4066B
or	409 003 9506	IC BU4066B
or	409 051 3501	IC TC4066BP
or	409 059 2605	IC UPD4066BC
IC374	409 214 1900	IC CXA1298AP
L3300	614 212 0804	TRANSFORMER,OSC,OSC COIL
L3501	614 252 4305	FILTER,LC,DOLBY NPX COIL
L3551	614 252 4305	FILTER,LC,DOLBY MPX COIL
L3700	614 028 4379	FILTER
L3750	614 029 3142	MX COIL,REC AMP BIAS TRAP
L3800	614 028 4379	FILTER
L3850	614 029 3142	MX COIL,REC AMP BIAS TRAP
Q3101	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3102	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3103	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
Q3104	⚠405 012 7403	TR 2SC2001-K
or	⚠405 013 1301	TR 2SC2120-Y
Q3105	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3106	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3107	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
Q3108	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
Q3109	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3300	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q3301	405 011 1907	TR 2SC1627-Y
Q3302	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
Q3303	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3501	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR

Ref. No.	Part No.	Description
Q3551	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3731	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
Q3831	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 015 6403	TR 2SC2785-F
or	405 015 6205	TR 2SC2785-E
or	405 014 5209	TR 2SC2458-GR
R3901	402 061 6005	FUSIBLE RES 22 J- 1/4W
or	402 040 8907	FUSIBLE RES 22 G- 1/4W
S3000	614 248 9642	SWITCH,SLIDE,RECORD/PLAY
VR301	645 006 2599	VR,SEMI,20K N,TAPE"1" L-CH PLAY GAIN
VR302	645 006 2599	VR,SEMI,20K N,TAPE"1" R-CH PLAY GAIN
VR303	645 006 2599	VR,SEMI,20K N,TAPE"2" L-CH PLAY GAIN
VR304	645 006 2599	VR,SEMI,20K N,TAPE"2" R-CH PLAY GAIN
VR305	645 006 2575	VR,SEMI,10K N,REC GAIN L-CH
VR306	645 006 2575	VR,SEMI,10K N,REC GAIN R-CH
VR307	645 006 2605	VR,SEMI,200K N,BIAS L-CH
VR308	645 006 2605	VR,SEMI,200K N,BIAS R-CH
VR309	645 006 2582	VR,SEMI,2K N,TAPE SPEED

STOP MUTE SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
96	614 269 7047	ASSY PWB,STOP MUTE SWITCH
CN317	614 223 9209	SOCKET,2P
or	614 020 6548	SOCKET,2P
S3001	614 203 7911	SWITCH,STOP MUTE

TAPE DIRECTION LED P.W.BOARD ASSY

Ref. No.	Part No.	Description
97	614 270 7500	ASSY,PWB,TAPE DIRECTION LED
CN391	614 035 4928	SOCKET,DIP 3P
or	614 237 9769	SOCKET,3P
CN392	614 253 7527	ASSY,CONNECTOR-S
D3901	408 016 1101	LED SLZ-381C-15-T2,FWD LED
D3902	408 016 1101	LED SLZ-381C-15-T2,REV LED

DOLBY NR, DUBBING SPEED / BEAT CANCEL P.W.BOARD ASSY

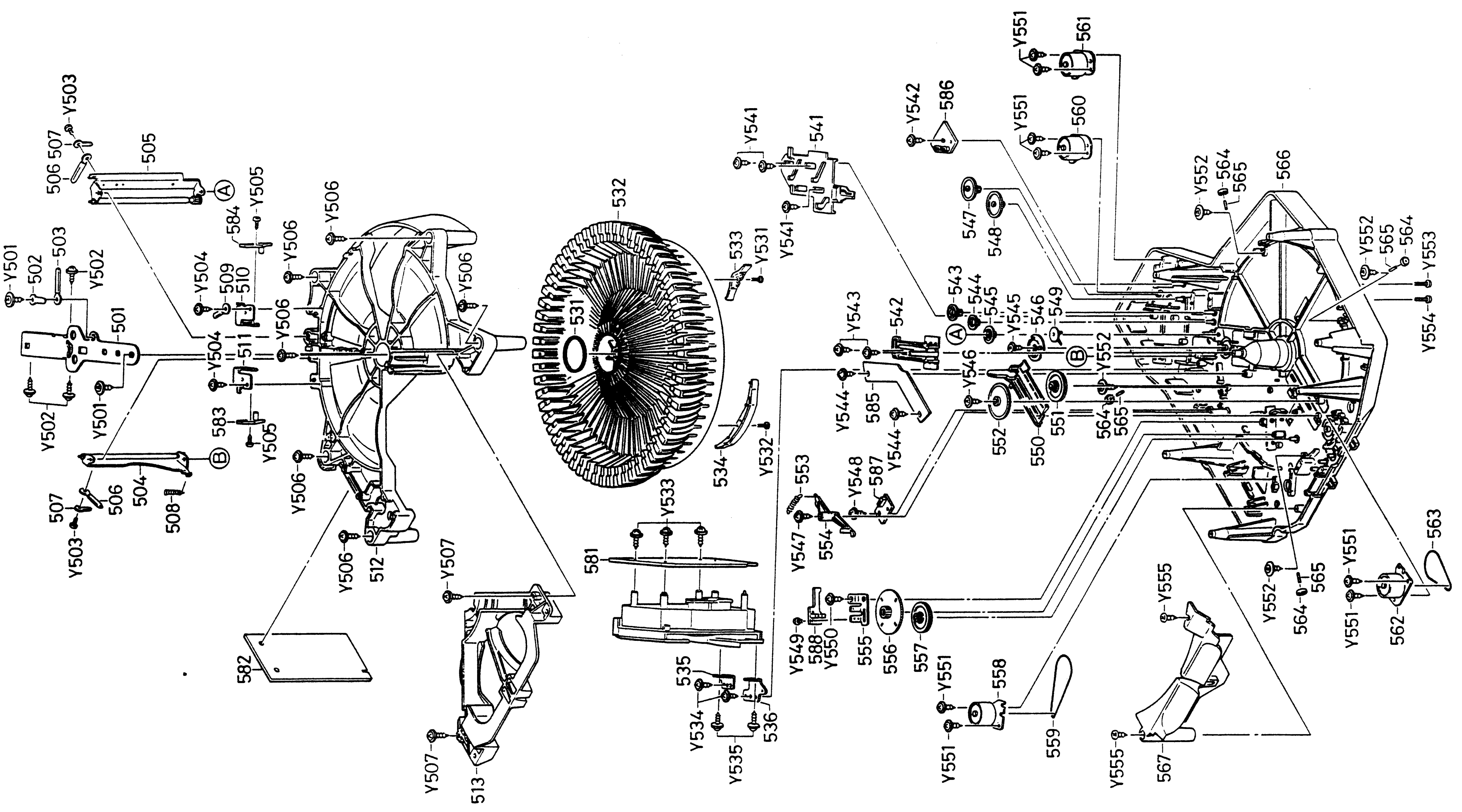
Ref. No.	Part No.	Description
98	614 266 9235	ASSY,PWB,DOLBY NR,DUBBING SPEED/BEAT CANCEL
CN398	614 035 4935	SOCKET,DIP 4P
or	614 237 9776	SOCKET,4P
S3501	645 006 1097	SWITCH,PUSH 2P-2TX2, DOLBY SWITCH

CD CHANGER MECHANISM (PM-CDRCH4) . . N.S.P

Ref. No.	Part No.	Description
501	614 247 8899	BRACKET-M,CD MECHANISM SUPPORT,TOP
502	614 129 9099	LUG,ROTARY CHANGER MECHANISM,TOP
503	614 129 9136	LUG,LEAD FIX
504	614 254 8028	ASSY,LEVER,LEFT ROLLER
505	614 254 8035	ASSY,LEVER,RIGHT ROLLER
506	614 129 9341	LUG,VINYL WIRE FIX
507	614 129 9068	LUG,GROUND
508	614 247 9315	SPRING,TENSION
509	614 129 9105	LUG,VINYL WIRE FIX
510	614 248 9307	BRACKET-E,PLAY SENSOR PWB
511	614 248 9314	BRACKET-E,PLAY LED PWB
512	614 265 8505	COVER,TOP PANEL
513	614 265 8499	COVER,TOP PANEL FRONT
531	614 265 8420	BELT,SQUARE,PREVENT FOR NOISE
532	614 270 8033	TURNTABLE,60 DISC TABLE
533	614 247 8981	MOUNT-M,SWITCH LEVER DRIVE
534	614 265 8963	CAM,SWITCH LEVER DRIVE
535	614 247 8912	BRACKET-M,CD MECHANISM BRACKET,BACK
536	614 247 8905	BRACKET-M,CD MECHANISM BRACKET,FRONT
541	614 247 9261	SLIDE,CHUCK DRIVE
542	614 247 9278	SLIDE,DISC
543	614 247 9131	GEAR,LD GEAR 2 (PLAY)
544	614 247 9124	GEAR,LD GEAR 3 (PLAY)
545	614 247 9117	GEAR,LD GEAR 4 (PLAY)
546	614 247 9087	GEAR,SLIDE CAM G (PLAY)
547	614 247 9070	GEAR, SLIDE DRIVER M-1
548	614 247 9063	GEAR, SLIDE DRIVER M-2
549	614 253 9071	ASSY,GEAR,SLIP(PLAY)
550	614 267 0507	SLIDE,DISC EJECT
551	614 265 8550	PULLEY,EJECT
552	614 267 0453	GEAR,DRIVE EJECT SLIDE
553	614 249 0525	SPRING,TENSION,PINCH LEVER
554	614 247 9216	LEVER,SWITCH
555	614 247 8882	BRACKET-E,SENSOR
556	614 265 8529	GEAR,TURNTABLE DRIVE
557	614 265 8550	PULLEY,TURNTABLE PULLEY
558	614 253 6957	ASSY,MOTOR,TURNTABLE
559	614 247 9209	BELT,SQUARE,TURNTABLE MOTOR
560	614 255 4999	ASSY,MOTOR,CHUCKING
561	614 255 4999	ASSY,MOTOR,PLAY LOADING
562	614 253 6957	ASSY,MOTOR,EJECT
563	614 265 8956	BELT,SQUARE,DRIVE EJECT
564	614 249 9351	ASSY,ROLLER,DISC TRAY SUPPORT
565	614 249 4035	SHAFT,DISC TRAY ROLLER SHAFT
566	614 265 7928	CHASSIS,MAIN
567	614 266 6678	MOUNTING,DISC GUIDE
601	614 233 0227	PLATE,CHUCK
602	614 269 5739	SPRING,WIRE,CHUCK LEVER
603	614 247 9223	LEVER,CHUCK
604	614 262 8928	MAGNET,CHUCK PRESSURE
605	614 250 2648	ASSY,PULLEY,CHUCK
606	614 247 8950	MOUNT-M,CD MECHANISM, CHUCK BRACKET

Ref. No.	Part No.	Description
607	614 247 8943	MOUNT-M, CD MECHANISM HOLDER,FRONT
608	614 247 8929	BRACKET-M, CD MECHANISM HOLDER
609	614 237 7031	CUSHION,RUBBER,CD MECHANISM
610	614 247 4907	SPRING,COMP,FLOAT SIDE
611	614 247 8851	CHASSIS,SUB,CHUCK
612	614 195 6978	RUBBER CUSHION,FLOAT UP/DOWN
Y501	412 003 1708	SPECIAL SCREW,TOP BRACKET
Y502	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, DISC GUIDE UP FIX
Y503	411 025 1901	SCR S-TPG PAN 2X3MM,LUG FIX
Y504	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, BRACKET-E FIX
Y505	411 023 2801	SCR S-TPG PAN 2.6X6MM, PLAY LED/SENSOR PWB FIX
Y506	411 020 9407	SCR S-TPG BRZ+FLG 3X14MM, TOP PANEL
Y507	411 098 9606	SCR S-TPG BRZ+FLG 3X18MM, TOP PANEL FRONT
Y531	411 022 8408	SCR S-TPG PAN 2X8MM, MOUNT-M & CAM
Y532	411 022 8408	SCR S-TPG PAN 2X8MM,CAM MTG.
Y533	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, CD MAIN PWB
Y534	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, BRACKET-M
Y535	411 020 8905	SCR S-TPG BRZ+FLG 3X10MM, BRACKET
Y541	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, SLIDE FIX
Y542	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, CHUCKING SWITCH PWB FIX
Y543	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, SLIDE FIX
Y544	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, LOCK SLIDE PWB
Y545	620 123 0772	SCREW WASHER,GEAR FIX
Y546	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, GEAR FIX
Y547	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, LEVER FLX
Y548	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, TURNTABLE INITIAL SWITCH PWB
Y549	411 023 2207	SCR S-TPG PAN 2.6X4MM, DISC STOP SENSOR PWB
Y550	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, BRACKET FIX
Y551	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, BRACKET MOTOR FIX
Y552	412 003 1708	SPECIAL SCREW,FIX ROLLER
Y553	411 101 5007	SCR S-TPG PAN 2X12MM, GEAR(547),BOSS
Y554	411 101 5007	SCR S-TPG PAN 2X12MM, GEAR(548),BOSS
Y555	411 021 3701	SCR S-TPG BIN 3X10MM, MOUNTING

EXPLODED VIEW (CD CHANGER MECHANISM)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PARTS LIST

Ref. No.	Part No.	Description
Y601	411 022 7500	SCR S-TPG PAN 2X4MM, CHUCK PLATE FIX
Y602	412 003 1708	SPECIAL SCREW, CHUCK LEVER FIX
Y603	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, BRACKET-M FIX
CN150	614 253 8913	ASSY,CONNECTOR-S,2P, TURNTABLE INITIAL SWITCH PWB
or	614 271 9213	
CN153	614 268 8830	ASSY,WIRE,4P, TURNTABLE/EJECT MOTOR
CN181	614 253 8966	ASSY,CONNECTOR-S,7P, CHUCKING SWITCH PWB
or	614 271 9251	
CN182	614 253 5806	ASSY,CONNECTOR-S,4P, CHUCKING/PLAY LOADING MOTOR
CN183	614 269 9454	ASSY,WIRE,LOCK SLIDE
CN190	614 270 0693	ASSY,CONNECTOR-S,3P, PLAY SENSOR
or	614 273 9563	
CN191	614 270 0679	ASSY,CONNECTOR-S,2P, PLAY LED
or	614 273 9518	

CD MAIN P.W.BOARD ASSY

Ref. No.	Part No.	Description
581	614 272 9083	ASSY,PWB,CD MAIN
	614 117 1098	SHIELD PLATE
C1113	403 154 2102	NP-ELECT 1U M 50V
CN101	645 007 1058	SOCKET,FPC 13P
CN102	645 005 8127	PLUG,6P
or	645 007 0099	PLUG,6P
CN103	614 227 7959	SOCKET,15P
CN104	645 005 7366	PLUG,2P
or	645 007 0051	PLUG,2P
CN105	645 005 8110	PLUG,4P
or	645 007 0075	PLUG,4P
CN106	645 005 8110	PLUG,4P
or	645 007 0075	PLUG,4P
D1420	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D1531	407 099 5204	ZENER DIODE MTZJ5.1B
IC101	409 313 5205	IC LA9220M
IC102	409 317 8509	IC BA6398FP
IC104	409 331 4006	IC LC7861KE
IC105	409 329 4209	IC UPD6379GR
L1401	614 028 6748	FILTER
L1501	614 028 6748	FILTER
L1502	645 006 9864	INDUCTOR,80U,1A
Q1101	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
or	405 057 7604	TR 2SA1175-FF
or	405 002 5402	TR 2SA1175-EF
Q1201	405 001 9302	TR 2SA1020-Y
Q1500	405 000 3400	TR DTC114TS
or	405 107 8704	TR BA1A4Z
or	405 035 1600	TR RN1211
Q1501	405 000 3400	TR DTC114TS
or	405 107 8704	TR BA1A4Z
or	405 035 1600	TR RN1211
X1401	614 231 2667	RESONATOR,16.93MHZ

MOTOR DRIVER P.W.BOARD ASSY

Ref. No.	Part No.	Description
582	614 266 9273	ASSY,PWB,MOTOR DRIVER
	⚠614 271 2405	SPACER
CN150	645 005 7366	PLUG,2P
CN151	645 006 0861	PLUG,7P
CN152	645 006 0045	PLUG,7P
CN153	645 005 8110	PLUG,4P
CN156	614 227 7768	SOCKET,21P
CN157	645 005 7373	PLUG,3P
CN158	645 005 7366	PLUG,2P
D1820	407 137 7306	ZENER DIODE MTZJ3.0A
D1821	407 144 4107	ZENER DIODE MTZJ2.7A
D1822	407 137 7306	ZENER DIODE MTZJ3.0A
D1824	407 120 6309	ZENER DIODE MTZJ3.3A
IC181	409 127 1400	IC LB1648
IC182	409 127 1400	IC LB1648
Q1810	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
or	405 057 7604	TR 2SA1175-FF
or	405 002 5402	TR 2SA1175-EF
Q1811	405 000 4407	TR DTC124ES
or	405 078 2800	TR BA1F4M
or	405 001 0309	TR RN1203

PLAY LED P.W.BOARD ASSY

Ref. No.	Part No.	Description
583	614 266 1697	ASSY,PWB,PLAY LED
	614 252 0956	COVER,SENSOR
CN191	645 006 0908	PLUG,2P
or	645 009 6426	PLUG,2P
D1817	408 018 8108	LED SRZ-935A-1-BC-T1

PLAY SENSOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
584	614 266 1703	ASSY,PWB,PLAY SENSOR
	614 252 0956	COVER,PHOTO
CN190	645 005 8226	PLUG,3P
or	645 009 6433	PLUG,3P
D1836	407 159 6004	PHOTO DIODE PT380F

LOCK SLIDE SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
585	614 269 6453	ASSY,PWB,LOCK SLIDE SWITCH
CN183	645 006 0946	PLUG,7P,SIDE
CN184	645 005 8226	PLUG,3P,SENSOR
D1803	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D1804	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D1805	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D1806	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
S1803	614 249 1355	SWITCH,LEVER,PLAY SLIDE OUT
S1804	614 249 1355	SWITCH,LEVER,PLAY SLIDE IN
S1805	614 249 1355	SWITCH,LEVER,EJECT SLIDE IN
S1806	614 249 1355	SWITCH,LEVER,EJECT SLIDE OUT

PARTS LIST

CHUCKING SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
586	614 266 1611	ASSY,PWB,CHUCKING SWITCH
CN181	645 006 0861	PLUG,7P
CN182	645 005 8110	PLUG,4P
D1801	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D1802	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
S1801	614 249 1355	SWITCH,LEVER,CHUCKING OFF
S1802	614 249 1355	SWITCH,LEVER,CHUCKING ON

TURNTABLE INITIAL SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
587	614 266 1642	ASSY,PWB,TUNETABLE INITIAL SWITCH
CN186	645 005 7366	PLUG,2P
D1807	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
S1807	614 250 0101	SWITCH,LEVER,POSITION DETECT

DISC STOP SENSOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
588	614 266 1635	ASSY,PWB,DISC STOP SENSOR
CN185	614 224 9932	ASSY,CONNECTOR-S,3P
or	614 271 8162	ASSY,CONNECTOR-S,3P
D1818	407 137 8006	PHOTO COUPLE GP1A53HR
R1801	401 026 9600	CARBON 470 JA 1/6W

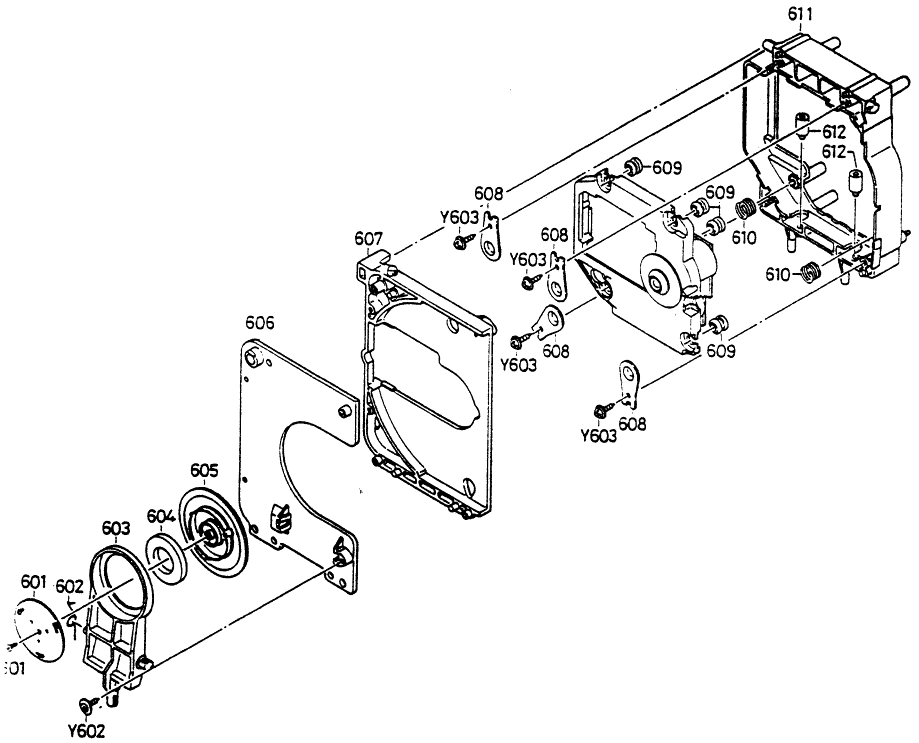
CD MECHANISM (PM-CDBM94D2SP) . . (N.S.P)

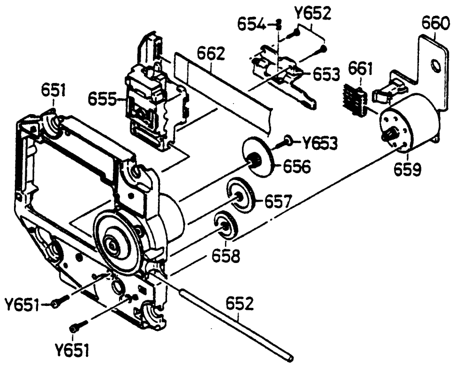
Ref. No.	Part No.	Description
651	614 267 0408	ASSY,CHASSIS,BASE MECHANIZM
652	614 237 7024	SHAFT,PICKUP
653	614 262 2599	GEAR,RACK,PICKUP
654	614 238 6934	SPRING,COMP,PICKUP RACK GEAR
655	645 006 7983	PICKUP,LASER
656	614 237 7116	GEAR,SLIDE
657	614 237 7109	GEAR,SLIDE RETARD GEAR 2
658	614 237 7093	GEAR,SLIDE RETARD GEAR 1
659	645 007 7814	ASSY,MOTOR SLED
661	614 253 5295	ASSY,CONNECTOR-S,6P,MOTOR
or	614 273 9570	ASSY,CONNECTOR-S,6P,MOTOR
662	645 009 9953	FLEXIBLE FLAT CABLE,13P, PICKUP
Y651	411 044 8004	SCR PAN+SW 2X8MM, SLED MOTOR FIX
Y652	411 152 4301	SCR S-TPG PAN PCS 1.7X6MM, PICK RACK GEAR FIX
Y653	412 047 3904	SPECIAL SCREW,SLED GEAR FIX

SPINDLE / SLED MOTOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
660	614 251 6485	ASSY,PWB,SPINDLE/SLED MOTOR (N.S.P)
CN001	645 006 0939	PLUG,6P
or	645 009 6464	PLUG,6P
S001	614 231 4005	SWITCH,LEAF,LIMIT

PLODED VIEW (CD MECHANISM)





PARTS LIST (TAPE MECHANISM)

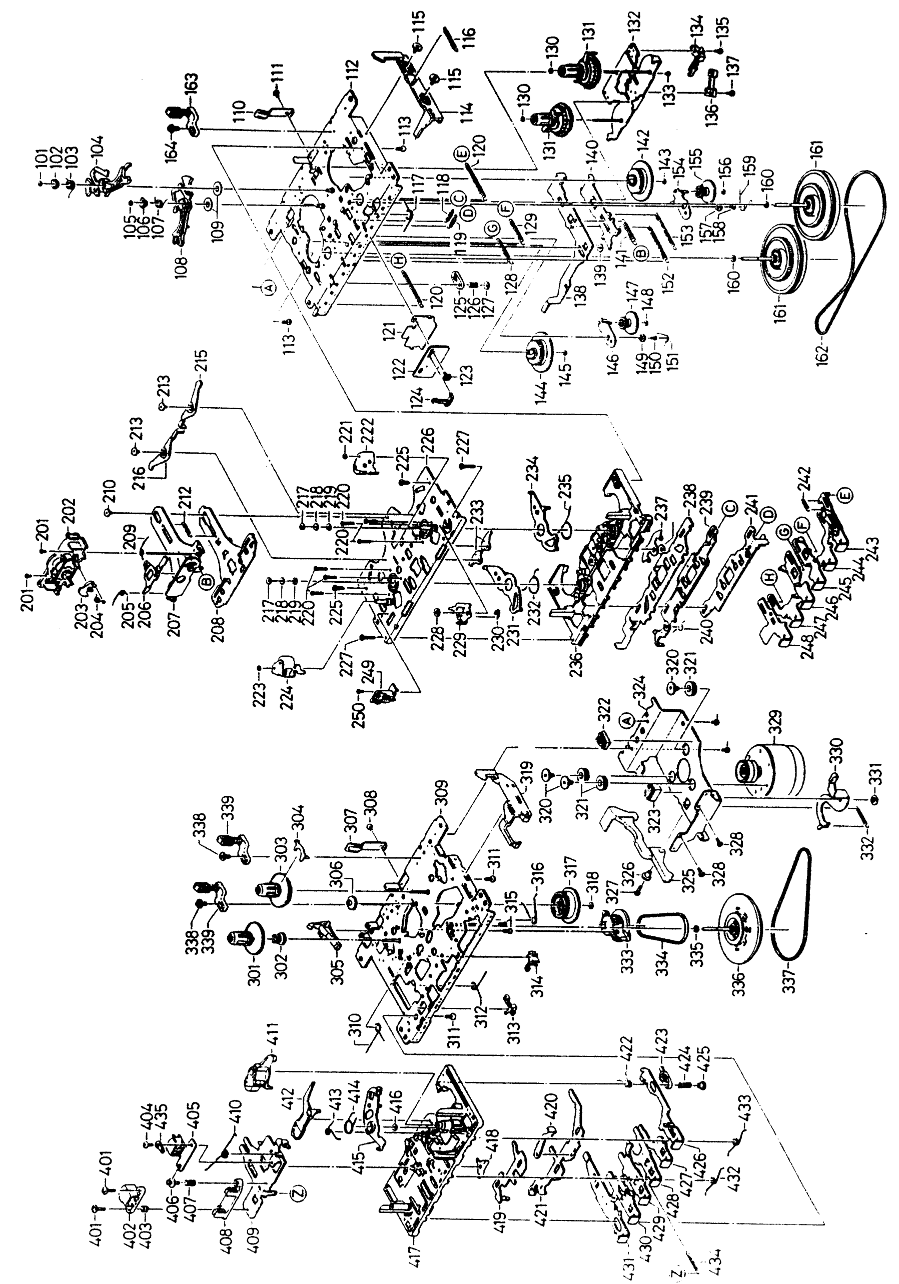
TAPE MECHANISM (TM-MC993TN/SP) (N.S.P)

Ref. No.	Part No.	Description
101	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
102	614 196 2825	STOPPER,SPRING
103	614 196 1958	SPRING WIRE, AUTO LEVER (F)
104	614 196 1514	LEVER,AUTO LEVER (F)
105	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
106	614 196 2825	STOPPER,SPRING
107	614 196 1941	SPRING WIRE, AUTO LEVER(R)
108	614 196 1521	LEVER,AUTO LEVER(R)
109	412 027 3405	SPECIAL WASHER, P WASHER 3X8.5X0.13MM
110	614 196 1897	SPRING PLATE,CASSETTE
111	412 046 6302	SPECIAL SCREW, C TIGHT M2X3 SPECIAL
112	614 204 6395	CHASSIS ASSY
113	412 003 8707	SPECIAL SCREW, P TAPP SCREW M2X6
114	614 251 8069	SLIDE,EJECT SLIDE LEVER
115	412 005 8101	SPECIAL SCREW,P.K COLLAR(A)
116	614 196 1798	SPRING COIL, EJECT SLIDE LEVER
117	614 204 4216	SPRING COIL, STOP BUTTON LEVER
118	614 196 1804	SPRING COIL,LOCK ACTUATOR
119	614 196 1835	SPRING COIL,SWITCH ACTUATOR
120	614 196 1859	SPRING COIL, PROGRAM BUTTON LEVER
121	614 196 2764	SHIELD PLATE,HEAD
122	614 205 4963	P.C BOARD,HEAD WIRE TERMINAL PLATE(S)
123	412 027 2101	SPECIAL SCREW, LOCK SCREW M2X4
124	614 129 5763	FIXER,WIRE CLAMPER
125	614 196 1422	LEVER,PAUSE
126	614 196 1736	SPRING COIL,PAUSE LEVER
127	412 013 7608	SPECIAL WASHER, P WASHER CUT 2.1X5X0.5MM
128	614 196 1842	SPRING COIL,F.FWD BUTTON LEVER
129	614 196 1842	SPRING COIL,F.FWD BUTTON LEVER
130	412 027 3504	SPECIAL WASHER, P WASHER CUT 1.2X3.7X0.4MM
131	614 219 4782	REEL ASSY
132	614 196 5345	BRACKET REEL SHAFT ASSY
133	412 036 3908	SPECIAL SCREW,TSS 1.7X3MM
134	614 211 2564	SWITCH,LEAF,POWER
135	412 004 0908	SPECIAL SCREW, + C TAPP SCREW M2X5
136	614 196 9756	SWITCH,LEAF,PLAY
137	412 004 0908	SPECIAL SCREW, + C TAPP SCREW M2X5
138	614 196 1262	SLIDE,RELEASE PLATE
139	412 013 7608	SPECIAL WASHER, P WASHER CUT 2.1X5X0.5MM
140	614 196 1392	SLIDE,F.FWD SWITCH PLATE
141	614 196 1767	SPRING COIL,R.C. SPRING(M)
142	614 204 6005	GEAR,T CAM GEAR(F)
143	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
144	614 204 6012	GEAR,T CAM GEAR(R)
145	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
146	614 196 4317	LEVER ASSY,F.FWD GEAR ARM(R)
147	614 196 1248	GEAR,F.FWD
148	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
149	614 196 1156	BOSS,FF GEAR ARM COLLER
150	412 036 4103	SPECIAL SCREW,T.SS 1.7X4MM
151	614 196 1996	SPRING WIRE, F.FWD GEAR ARM(F)
152	614 196 1828	SPRING COIL,BUTTON LEVER(P)
153	614 196 1880	SPRING COIL, F.FWD SWITCH PLATE SPRING
154	614 196 4300	LEVER ASSY,F.FWD GEAR ARM(F)
155	614 196 1248	GEAR,F.FWD
156	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
157	614 196 1156	BOSS,FF GEAR ARM COLLER
158	412 036 4103	SPECIAL SCREW,T.SS 1.7X4MM
159	614 196 1996	SPRING WIRE,FF GEAR ARM(F)
160	412 027 3207	SPECIAL WASHER, P WASHER 2.1X3X0.3MM
161	614 196 4201	FLYWHEEL ASSY
162	614 196 2924	SQUARE BELT,MAIN
163	614 209 3849	SWITCH,LEAF,CrO2
164	412 023 0903	SPECIAL SCREW, CUP TAPP 2X5MM
201	412 029 8408	SPECIAL SCREW, CAMERA S TAPP SCREW M1.7
202	614 210 0158	ASSY,BRACKET, ROTARY HEAD,PLAYBACK
203	614 196 1170	GEAR,HEAD TURN OVER GEAR
204	614 196 2009	SPRING WIRE,HEAD TURN OVER
205	614 198 7729	SPRING WIRE,PINCH ROLLER(R)
206	614 196 1293	SLIDE,HEAD SLIDE PLATE
207	614 196 1279	SLIDE,HEAD PANEL
208	614 196 1286	SLIDE,R.C PLATE
209	614 198 7750	SPRING WIRE, PINCH ROLLER SPRING(F)
210	412 044 9206	SPECIAL SCREW, HP COLLER SCREW
212	614 196 1743	SPRING COIL, R.C. PLATE SPRING
213	412 044 9305	SPECIAL SCREW, CONTROL ARM COLLAR
215	614 209 4266	LEVER,AUTO CONTROL ARM(F)
216	614 209 4273	LEVER,AUTO CONTROL ARM(R)
217	412 027 3306	SPECIAL WASHER, P WASHER 1.75X4X0.3MM
218	412 028 2100	SPECIAL WASHER, P WASHER CUT 1.45X4X0.5MM
219	412 013 8902	SPECIAL WASHER, P WASHIR CUT1.45X4X0.5MM
220	412 036 4004	SPECIAL SCREW, T.SS 1.7X8.5MM
221	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
222	614 198 8665	LEVER PINCH ROLLER ASSY,(F)
223	412 013 4904	SPECIAL WASHER, P WASHER CUT 1.2X3X0.25MM
224	614 198 8672	LEVER PINCH ROLLER ASSY. (R)

PARTS LIST (TAPE MECHANISM)

Ref. No.	Part No.	Description
225	412 036 3908	SPECIAL SCREW,TSS 1.7X3MM
226	614 209 4037	SUB CHASSIS ASSY
227	412 027 2903	SPECIAL SCREW, C TAPP SCREW M2X10
228	412 031 9608	SPECIAL WASHER, E RING S2.0
229	614 196 1538	LEVER,TURN OVER ARM
230	614 196 1965	SPRING WIRE,TURN OVER
231	614 204 5749	LEVER ASSY,T GEAR(R)
232	614 196 1989	SPRING WIRE,T GEAR(R)
233	614 196 1507	LEVER,RC ARM
234	614 205 1153	LEVER ASSY,T GEAR ARM(F)
235	614 196 1972	SPRING WIRE,T GEAR ARM(F)
236	614 205 1139	SUB CHASSIS ASSY,BUTTN BASE
237	614 196 1477	LEVER,F.FWD CONTROL ARM
238	614 196 1378	SLIDE,SLIDE PLATE
239	614 196 5871	SLIDE ASSY,LOCK ACTUATOR
240	614 198 7743	SPRING WIRE,LOCK RELEASE
241	614 204 6418	SLIDE ASSY,SWITCH ACTUATOR
242	614 196 1811	SPRING COIL,PULL ARM SPRING
243	614 219 3006	ASSY,SLIDE,DIRECTION BUTTON LEVER
244	614 205 5489	SLIDE,STOP/EJECT BUTTON LEVER
245	614 205 5472	SLIDE,F.FWD BUTTON LEVER(S)
246	614 205 5465	SLIDE,F.FWD BUTTON LEVER(R)
247	614 205 5526	SLIDE,PLAY BUTTON LEVER
248	614 205 8305	ASSY,SLIDE,REVERSE MODE BUTTON LEVER
249	614 198 8658	BRACKET SWITCH ASSY, DIRECTION
250	412 027 2705	SPECIAL SCREW, CAMERA S TAPP SCREW M1.7
251	412 031 0902	SPECIAL WASHER,2.8X6X0.5MM
301	614 211 3868	REEL ASSY,SUPPLY
302	614 208 0351	SPRING,COMP,BACK TENSIONS
303	614 211 3875	REEL ASSY,TAKEUP
304	614 195 5094	LEVER,SENSOR,REEL
305	614 140 1508	LEVER,RECORD SAFETY
306	614 134 9046	GEAR,F.FWD GEAR
307	614 196 1897	SPRING PLATE,CASSETTE
308	412 046 6302	SPECIAL SCREW, C TIGHT M2X3 SPECIAL
309	614 067 2770	CHASSIS ASSY
310	614 205 5595	SPRING,WIRE,REC BUTTON LEVER
311	412 026 2201	SPECIAL SCREW, P TAPP BIND SCREW M2X5
312	614 152 1282	SPRING WIRE,P.S. LEVER
313	614 024 1693	SWITCH,LEAF,POWER
314	614 195 4424	SWITCH,LEAF,PLAY
315	412 026 2300	SPECIAL SCREW, CAMERA TAPP SCREW M2X4.5
316	614 152 1275	SPRING WIRE,E ACTUATOR
317	614 134 9053	GEAR,CAM GEAR
318	412 013 5000	SPECIAL WASHER, P WASHER CUT 1.2X3.8X0.3MM
319	614 205 5410	SLIDE,EJECT SLIDE LEVER
320	412 003 8103	SPECIAL SCREW,MOTOR COLLAR
321	614 126 6831	CUSHION,MOTOR RUBBER
322	614 196 2801	CUSHION,ANTI-VIBRATION FELT MAT
323	614 196 2818	CUSHION, ANTI-VIBRATION FELT MAT
324	614 196 2795	BRACKET MOTOR,MOTOR BRACKET
325	614 196 1453	LEVER,P KICK(B)
326	614 196 1101	BOSS,COLLAR(B)
327	412 031 9707	SPECIAL SCREW, C TAPP SCREW M2X6
328	412 026 2003	SPECIAL SCREW, C TAPP SCREW M2X4
329	614 251 7604	ASSY,MOTOR,PULLEY
330	614 196 1439	LEVER,P KICK(A)
331	412 005 8101	SPECIAL SCREW,P.K. COLLER(A)
332	614 196 1781	SPRING COIL,P KICK LEVER
333	614 204 5732	PULLEY ASSY,RF CLUTCH
334	614 195 5087	SQUARE BELT,RF
335	412 013 8902	SPECIAL WASHER,2X3.5X0.3MM
336	614 068 1871	FLYWHEEL DISK ASSY
337	614 204 4681	SQUARE BELT,MAIN
338	412 023 0903	SPECIAL SCREW,CUP TAPP 2X5MM
339	614 209 3849	SWITCH,LEAF,CrO2/METAL
401	412 027 4600	SPECIAL SCREW,SCREW M2X8
402	614 021 8831	MAGNETIC HEAD,ERASE
403	614 151 5090	SPRING COIL,ERASE HEAD
404	412 031 9509	SPECIAL SCREW, (+) BIND SCREW M2X3
405	614 208 4052	HEAD,RECORD/PLAY
406	412 026 1709	SPECIAL SCREW, AZIMUTH SCREW M2X7
407	614 151 7162	SPRING COIL,AZIMUTH SPRING
408	614 196 0470	BRACKET HEAD,HEAD BASE
409	614 210 6822	SLIDE,HEAD PANEL
410	614 210 3432	SPRING WIRE,PANEL(P)SPRING
411	614 237 2371	ASSY,PINCHROLLER
412	614 140 1614	LEVER,SENSING
413	614 152 1299	SPRING WIRE,M CONTROL SPRING
414	614 253 2553	SPRING WIRE, GEAR PLATE SPRING
415	614 070 0916	LEVER ASSY,GEAR PLATE
416	412 026 1808	SPECIAL WASHER, P WASHER CUT 1.45X3.8X0.5MM
417	614 067 3258	SUB CHASSIS ASSY,BASE
418	614 129 0676	BOSS,PR STOPPER
419	614 201 1744	SLIDE,SWITCH ACTUATOR
420	614 140 1539	LEVER,EJECT KICK
421	614 139 1120	SLIDE,PUSH BUTTON ACTUATOR
422	614 152 1244	SPRING WIRE,P CONTROL
423	614 211 3615	LEVER,PAUSE
424	614 151 7186	SPRING COIL,PAUSE LEVER
425	614 129 0669	BOSS,PAUSE STOPPER
426	614 211 3608	LEVER,PAUSE BUTTON
427	614 205 5458	SLIDE,STOP BUTTON LEVER
428	614 205 5540	SLIDE,F.FWD BUTTON LEVER
429	614 205 5441	SLIDE,REW BUTTON LEVER
430	614 205 5434	SLIDE,PLAY BUTTON LEVER
431	614 205 5427	SLIDE,REC BUTTON LEVER
432	614 152 1251	SPRING WIRE, BUTTON LEVER SPRING(A)
433	614 152 1268	SPRING WIRE, BUTTON LEVER SPRING(B)
434	614 151 4703	SPRING COIL, PLAY BUTTON LEVER SP(S)
435	614 209 3443	LUG,RUG PLATE S2X4
CN381	614 248 9086	ASSY,CONNECTRO-S,4P, PLAY HEAD,TAPE "2"
CN382	614 248 9093	ASSY,CONNECTOR-S,7P, ROTARY HEAD,TAPE "1"

EXPLODED VIEW (TAPE MECHANISM)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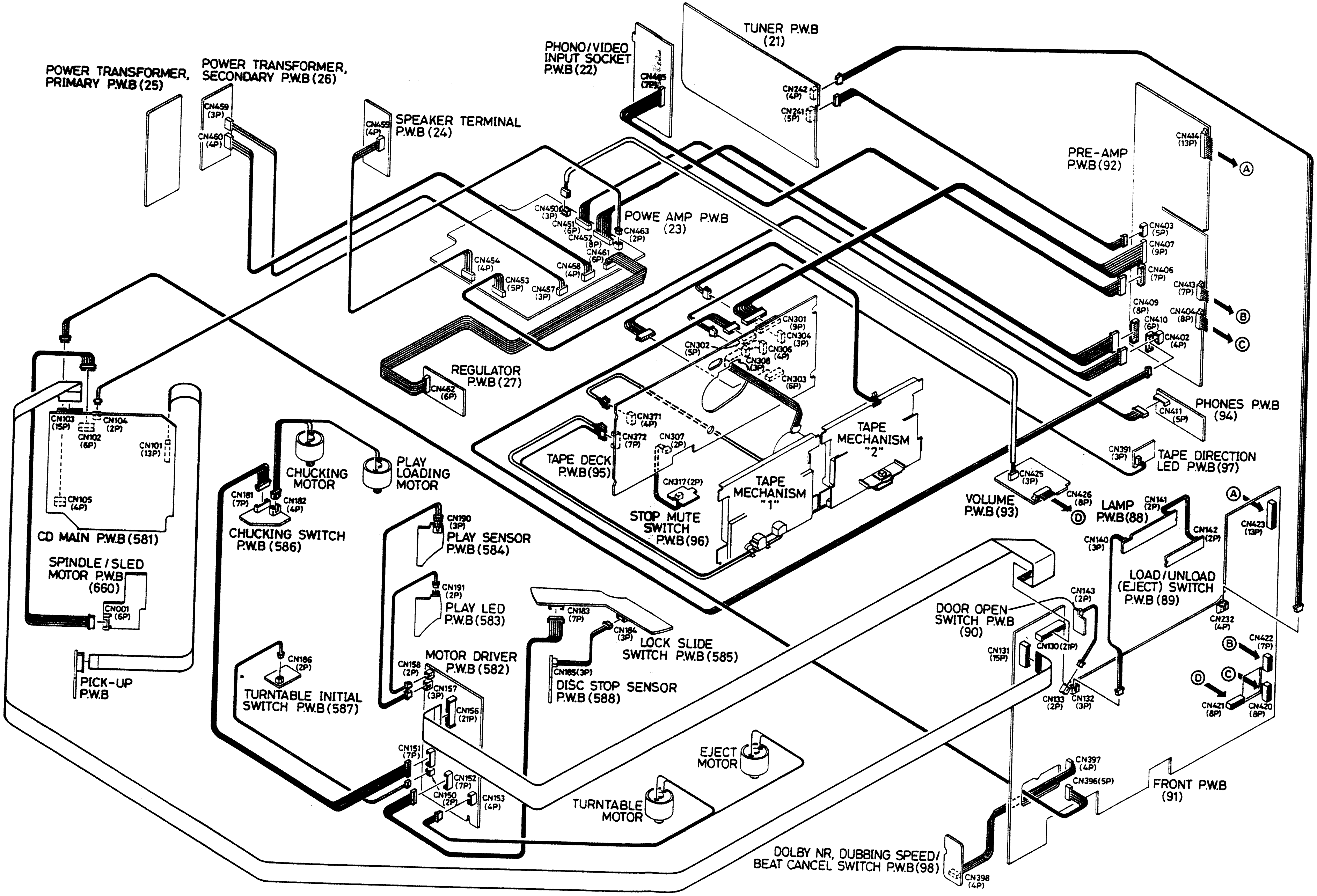
CONNECTION


POWER TRANSFORMER, PRIMARY P.W.B (25)
POWER TRANSFORMER, SECONDARY P.W.B (26)
CN459 (3P)
CN460 (4P)
SPEAKER TERMINAL P.W.B (24)
CN455 (4P)
PHONO/VIDEO INPUT SOCKET P.W.B (22)
CN465 (7P)
TUNER P.W.B (21)
CN242 (4P)
CN241 (5P)
PRE-AMP P.W.B (92)
CN414 (13P)
Ⓐ
POWE AMP P.W.B (23)
CN450 (3P)
CN451 (6P)
CN452 (8P)
CN463 (2P)
CN461 (6P)
CN454 (4P)
CN458 (4P)
CN453 (5P)
CN457 (3P)
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CN407 (9P)
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CN413 (7P)
CN409 (8P)
CN410 (6P)
CN404 (8P)
CN402 (4P)
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CN301 (9P)
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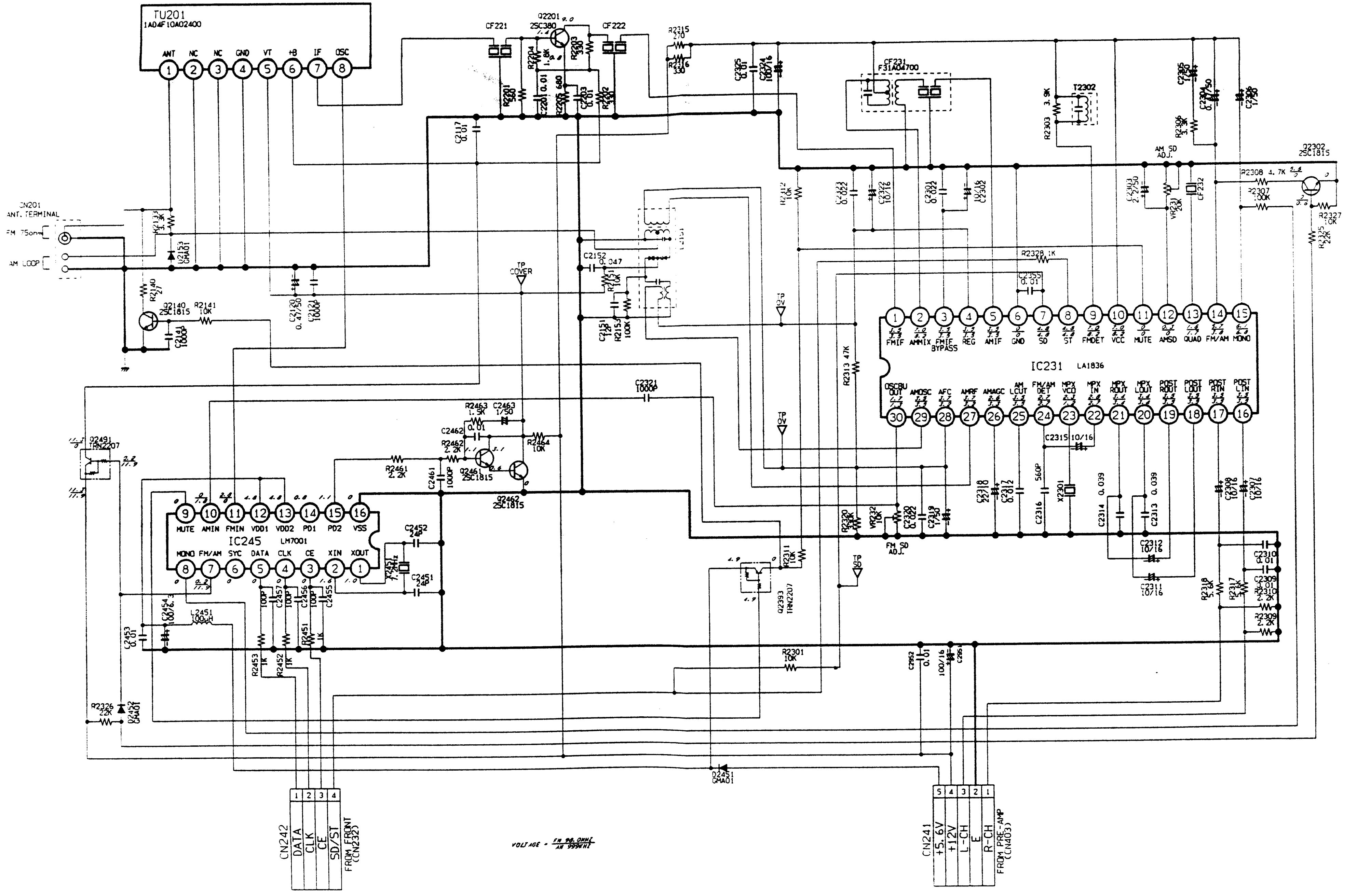
CN302 (5P)
CN306 (4P)
CN308 (3P)
CN303 (6P)
REGULATOR P.W.B (27)
CN462 (6P)
PHONES P.W.B (94)
CN411 (5P)
CN103 (15P)
CN104 (2P)
CN102 (6P)
CN101 (13P)
CN105 (4P)
CD MAIN P.W.B (581)
CN371 (4P)
CN372 (7P)
CN307 (2P)
TAPE DECK P.W.B (95)
CN317 (2P)
STOP MUTE SWITCH P.W.B (96)
TAPE MECHANISM "2"
TAPE MECHANISM "1"
CN391 (3P)
TAPE DIRECTION LED P.W.B (97)
CN425 (3P)
CN426 (8P)
VOLUME P.W.B (93)
Ⓓ
LAMP P.W.B (88)
CN141 (2P)
CN142 (2P)
CN140 (3P)
Ⓐ
CN423 (13P)
CHUCKING MOTOR
PLAY LOADING MOTOR
CN181 (7P)
CN182 (4P)
CHUCKING SWITCH P.W.B (586)
CN190 (3P)
PLAY SENSOR P.W.B (584)
SPINDLE / SLED MOTOR P.W.B (660)
CN001 (6P)
CN191 (2P)
PLAY LED P.W.B (583)
CN183 (7P)
CN184 (3P)
LOCK SLIDE SWITCH P.W.B (585)
LOAD / UNLOAD (EJECT) SWITCH P.W.B (89)
CN143 (2P)
DOOR OPEN SWITCH P.W.B (90)
CN232 (4P)
CN131 (15P)
CN130 (21P)
CN422 (7P)
Ⓑ
Ⓒ
Ⓓ
CN133 (2P)
CN132 (3P)
CN421 (8P)
CN420 (8P)
PICK-UP P.W.B
CN186 (2P)
TURNTABLE INITIAL SWITCH P.W.B (587)
MOTOR DRIVER P.W.B (582)
CN158 (2P)
CN157 (3P)
CN156 (21P)
CN185 (3P)
DISC STOP SENSOR P.W.B (588)
CN151 (7P)
CN152 (7P)
CN150 (2P)
CN153 (4P)
EJECT MOTOR
TURNTABLE MOTOR
CN397 (4P)
CN396 (5P)
FRONT P.W.B (91)
DOLBY NR, DUBBING SPEED/ BEAT CANCEL SWITCH P.W.B (98)
CN398 (4P)

SCHEMATIC DIAGRAM (TUNER)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U2153 GMA01
R2140 27
Q2140 2SC1815
R2141 10K
C2141 1000P
C2120 0.47/50
C2121 1000P
C2117 0.01
CF221
Q2201 2SC380
R2204 1.8K
R2201 560
C2201 0.01
R2205 680
R2203 330
C2203 0.01
R2202 330
CF222
R2315 270
R2316 330
C2325 0.01
C2324 100/16
CF231
F31A04700
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R2306 3.3K
C2305 1/50
C2304 4.7/50
C2308 1/50
AM SD ADJ.
Q2302 2SC1815
R2308 4.7K
R2307 100K
R2327 10K
R2325 22K
R2312
C2323 0.022
C2322 10/16
C2301 0.022
C2302 10/16
C2303 2.2/50
VR231 20K
CF232
R2328 1K
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C2151 12P
R2153 100K
TP COVER
TP 0V
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TP SD
R2313 47K
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AMMIX
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AMIF
GND
SD
ST
FMDET
VCC
MUTE
AMSD
QUAD
FM/AM
MONO
OSCBU OUT
AMOSC
AFC
AMRF
AMAGC
AM LCUT
FM/AM DET
MPX VCO
MPX IN
MPX ROUT
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POST ROUT
POST LOUT
POST RIN
POST LIN
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C2318 22/16
C2317 0.012
560P
C2316
X2301
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C2313 0.039
C2306 10/16
C2307 10/16
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VR232 10K
C2320 0.022
C2319 1/50
FM SD ADJ.
C2312 10/16
C2311 10/16
C2310 0.01
C2309 0.01
R2318 5.6K
R2317 5.6K
R2310 2.2K
R2309 2.2K
R2311 10K
Q2393 TRN2207
R2301 10K
C2952 0.01
100/16
C2951
C2321 1000P
R2463 1.5K
C2463 1/50
C2462 0.01
R2462 2.2K
R2464 10K
R2461 2.2K
C2461 1000P
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Q2462 2SC1815
Q2491 TRN2207
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AMIN
FMIN
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VDD2
PD1
PD2
VSS
MONO
FM/AM
SYC
DATA
CLK
CE
XIN
XOUT
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C2451 24P
C2457 100P
C2456 100P
C2455 100P
C2454 100/6.3
L2451 100μH
C2453 0.01
R2453 1K
R2452 1K
R2451 1K
R2326 22K
D2452 GMA01
D2451 GMA01
CN242
DATA
CLK
CE
SD/ST
FROM FRONT (CN2323)
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+12V
L-CH
E
R-CH
FROM PRE-AMP (CN403)
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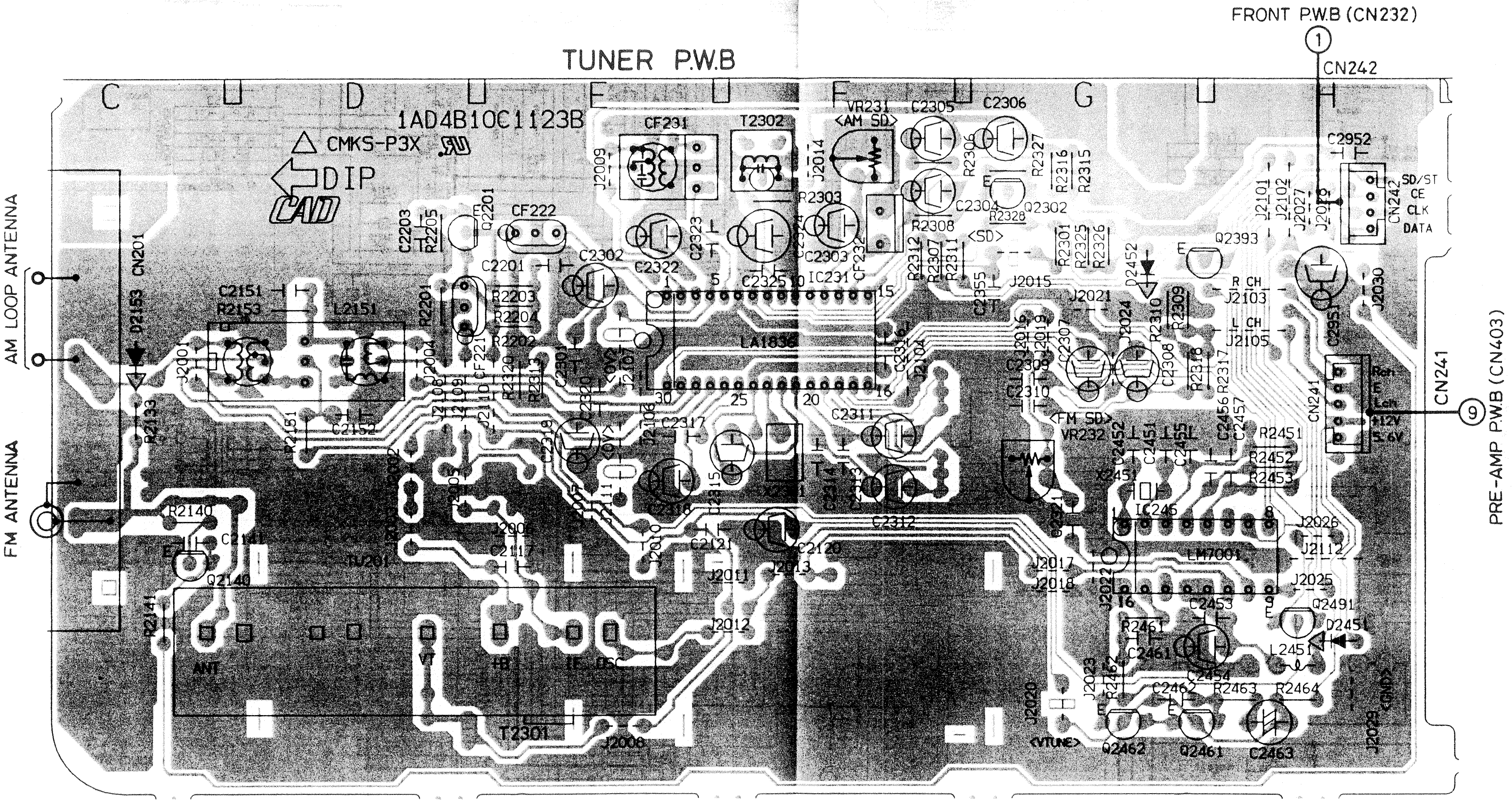
FRONT P.W.B (CN232)
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TUNER P.W.B
CN242
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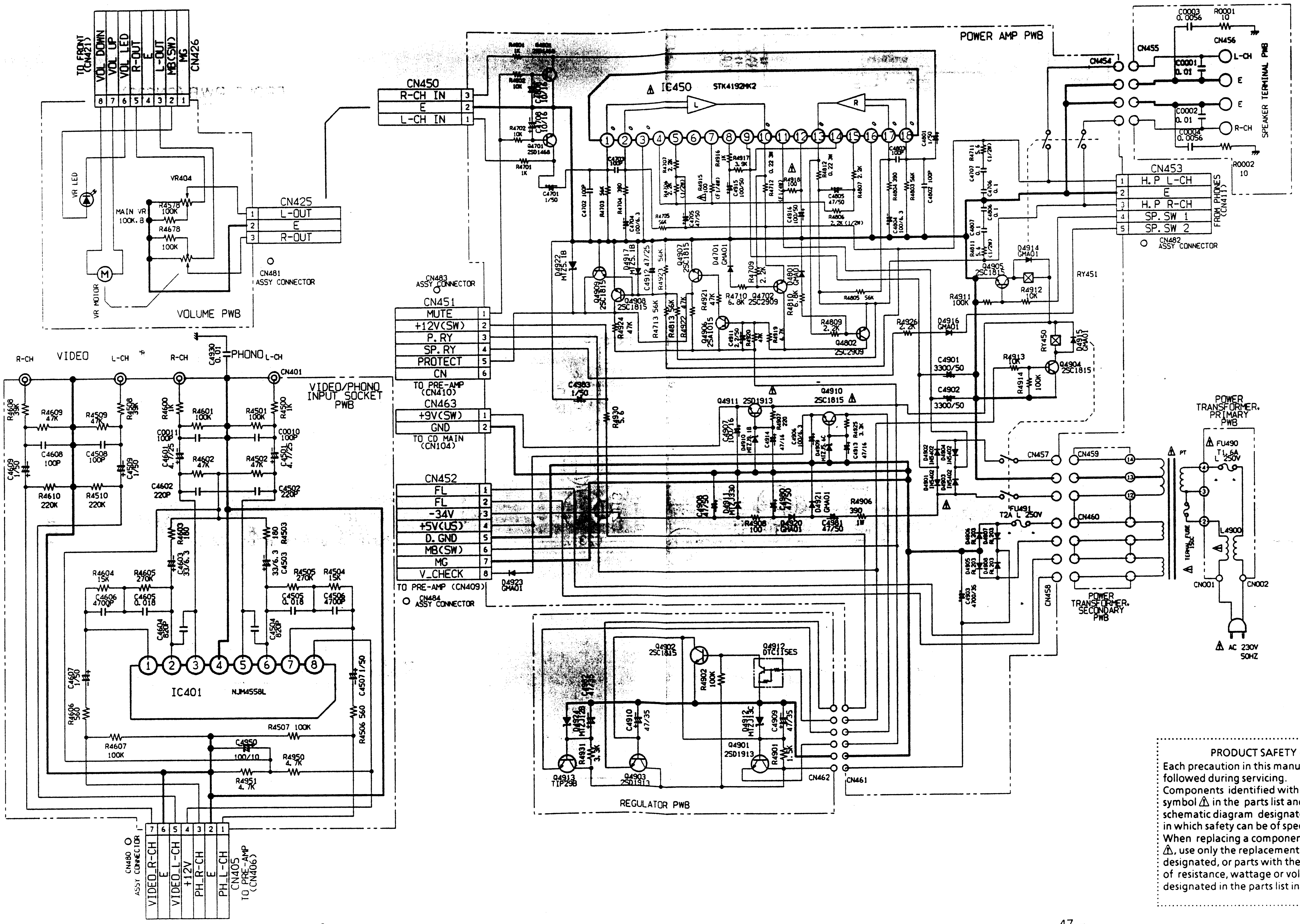
C2310
Q2307
J2024
C2308
R2318
R2317
C2456
C2457
J2104
C2317
C2311
C2318
C2315
X2301
C2314
C2313
C2312
C2121
C2120
J2013
J2011
J2012
T2301
J2008
<FM SD>
VR232
C2452
C2451
C2455
X2451
IC246
LM7001
R2451
R2452
R2453
J2026
J2112
J2025
J2017
J2018
J2022
C2453
Q2491
D2451
R2461
C2461
L2451
C2454
J2023
R2462
C2462
R2463
R2464
J2020
<VTUNE>
Q2462
Q2461
C2463
J2029
<GND>
C2952
J2101
J2102
J2027
J2028
SD/ST
CE
CLK
DATA
C2951
J2030
CN241
Rch
E
Lch
+12V
5.6V
⑨
PRE-AMP P.W.B (CN403)
1
5
10
15
16
20
25
30
8
16

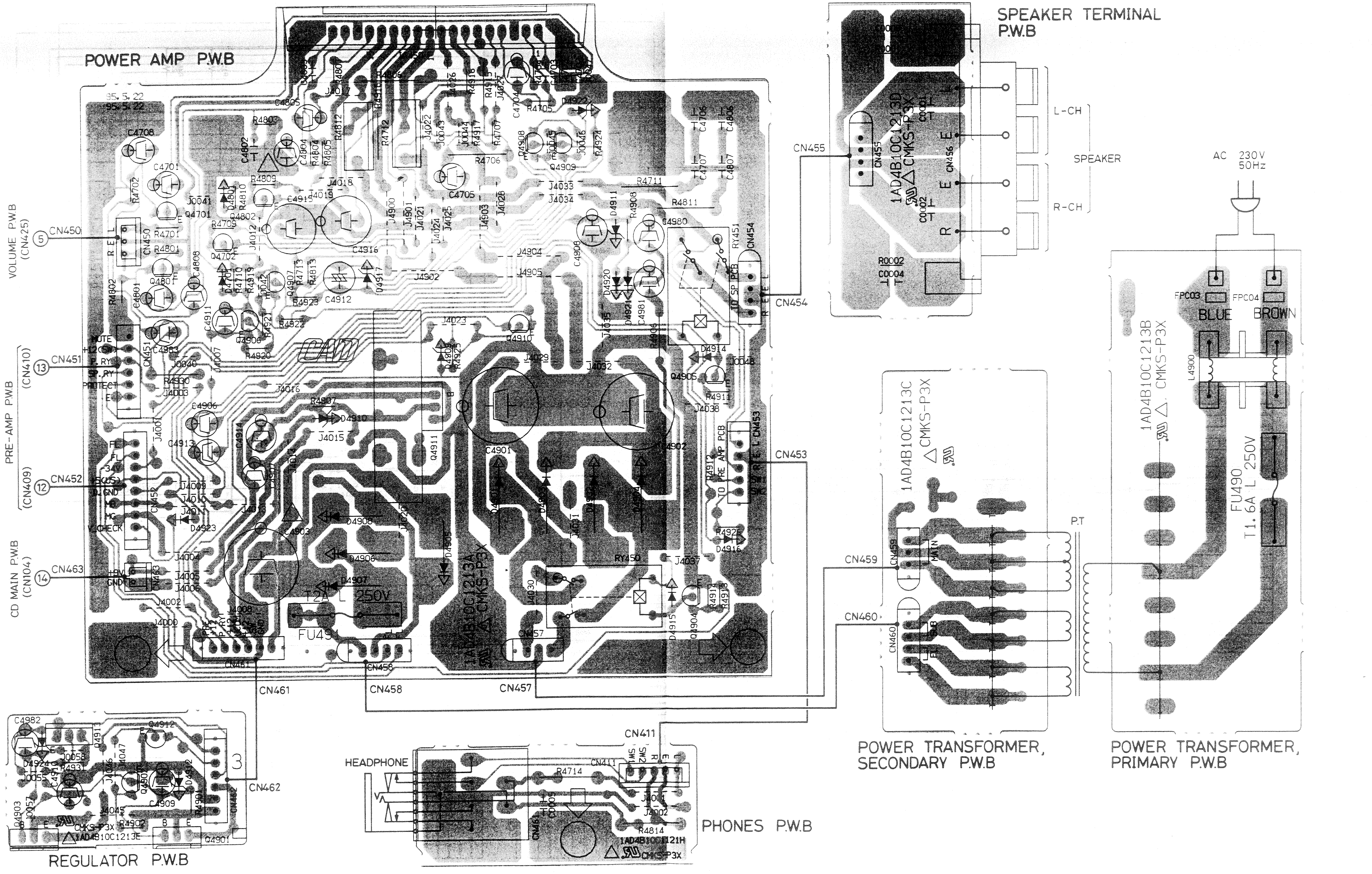
SCHEMATIC DIAGRAM (POWER AMP.)


TO FRONT (CN421)
VOL DOWN
VOL UP
VOL LED
R-OUT
E
L-OUT
MB(SW)
MG
CN426
VR LED
VR404
MAIN VR 100K.B
R4578 100K
R4678 100K
VR MOTOR
VOLUME PWB
CN425
L-OUT
E
R-OUT
CN481 ASSY CONNECTOR
CN450
R-CH IN
E
L-CH IN
POWER AMP PWB
IC450 STK4192MK2
Q4701 2SD1468
CN483 ASSY CONNECTOR
CN451
MUTE
+12V(SW)
P.RY
SP.RY
PROTECT
CN
TO PRE-AMP (CN410)
CN463
+9V(SW)
GND
TO CD MAIN (CN104)
CN452
FL
FL
-34V
+5V(US)
D.GND
MB(SW)
MG
V_CHECK
TO PRE-AMP (CN409)
CN484 ASSY CONNECTOR
Q4923 GMA01
R-CH
VIDEO
L-CH
R-CH
PHONO L-CH
CN401
VIDEO/PHONO INPUT SOCKET PWB
IC401 NJM4558L
CN480 ASSY CONNECTOR
VIDEO_R-CH
E
VIDEO_L-CH
+12V
PH_R-CH
E
PH_L-CH
CN405 TO PRE-AMP (CN406)
Q4909 2SC1815
Q4908 2SC1815
Q4906 2SA1015
Q4702 2SC2909
Q4802 2SC2909
Q4911 2SD1913
Q4910 2SC1815
Q4905 2SC1815
Q4904 2SC1815
RY450
RY451
C4901 3300/50
C4902 3300/50
CN453
H.P L-CH
E
H.P R-CH
SP.SW 1
SP.SW 2
FROM PHONES (CN411)
CN482 ASSY CONNECTOR
CN454
CN455
CN456
L-CH
E
E
R-CH
SPEAKER TERMINAL PWB
C0003 0.0056
R0001 10
C0001 0.01
C0002 0.01
C0004 0.0056
R0002 10
CN457
CN459
CN460
FU491 T2A L 250V
CN458
POWER TRANSFORMER SECONDARY PWB
POWER TRANSFORMER PRIMARY PWB
FU490 T1.6A L 250V
L4900
CN001
CN002
AC 230V 50HZ
Q4902 2SC1815
Q4912 DTC115ES
Q4901 2SD1913
Q4903 2SD1913
Q4913 TIP29B
CN462
CN461
REGULATOR PWB

PRODUCT SAFETY NOTICE

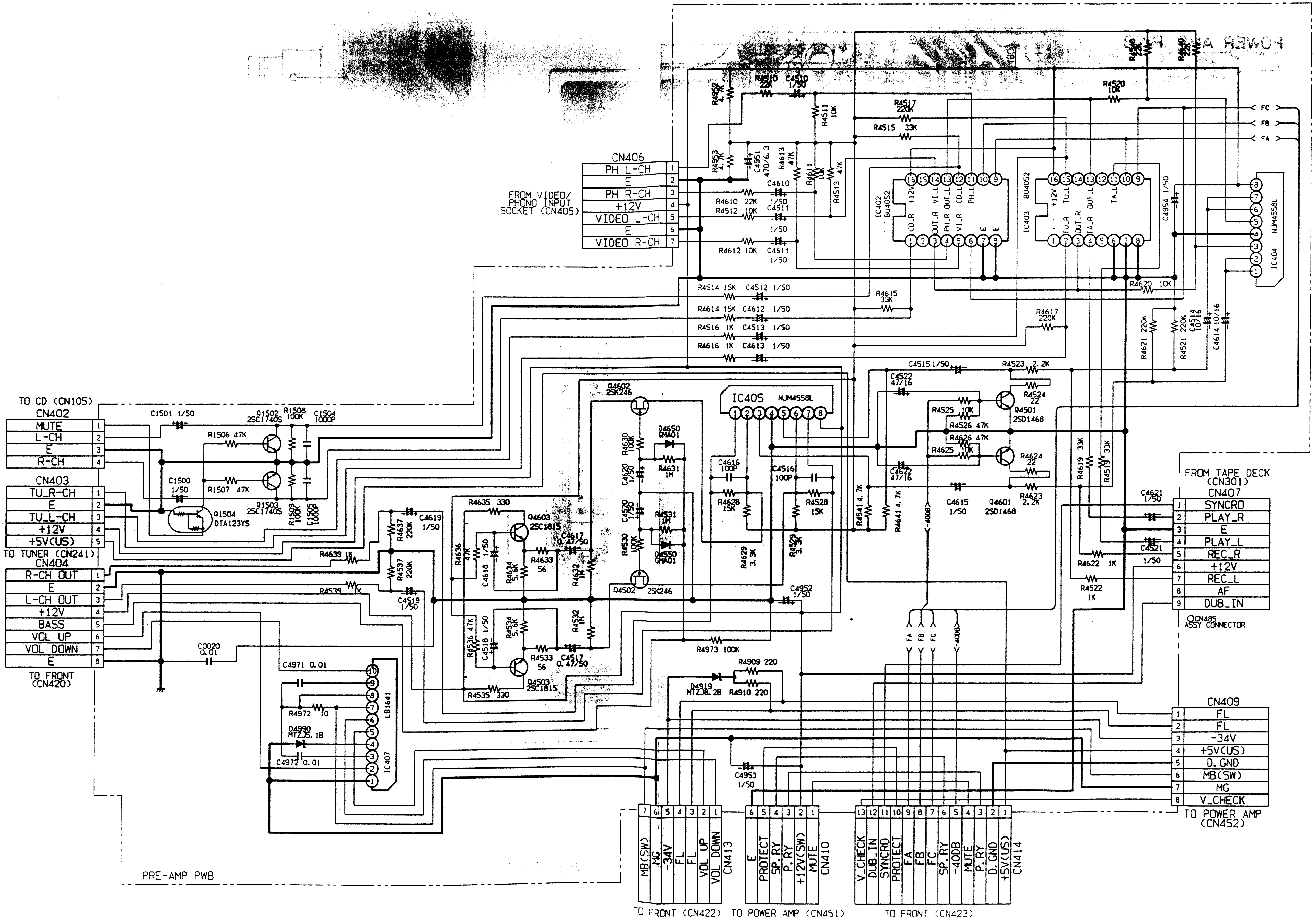
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

WIRING DIAGRAM (POWER AMP.)

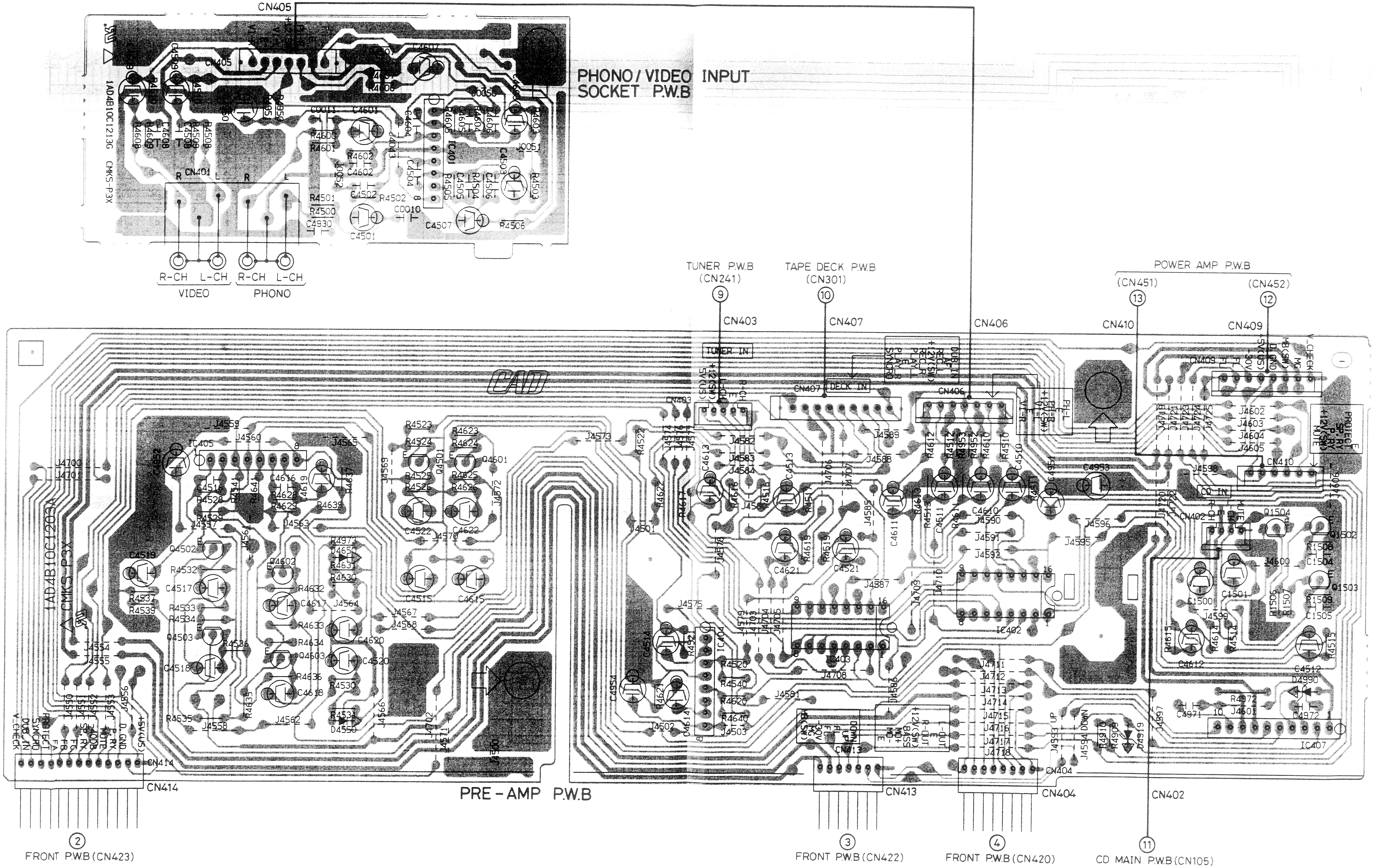


POWER AMP P.W.B
SPEAKER TERMINAL P.W.B
L-CH
SPEAKER
R-CH
AC 230V 50Hz
BLUE
BROWN
FU490 T1.6A L 250V
P.T
VOLUME P.W.B (CN425)
PRE-AMP P.W.B (CN410) (CN409)
CD MAIN P.W.B (CN104)
CN450
CN451
CN452
CN463
CN453
CN454
CN455
CN456
CN457
CN458
CN459
CN460
CN461
CN462
CN411
MUTE
+12V
P. RY
SP. RY
PROTECT
V. CHECK
TO SP PCB
TO PRE AMP PCB
RY450
RY451
FU45
T2A L 250V
1AD4B10C1213A CMKS-P3X
1AD4B10C1213D CMKS-P3X
1AD4B10C1213C CMKS-P3X
1AD4B10C1213B CMKS-P3X
1AD4B10C1213E CMKS-P3X
1AD4B10C1211H CMKS-P3X
HEADPHONE
POWER TRANSFORMER, SECONDARY P.W.B
POWER TRANSFORMER, PRIMARY P.W.B
REGULATOR P.W.B
PHONES P.W.B

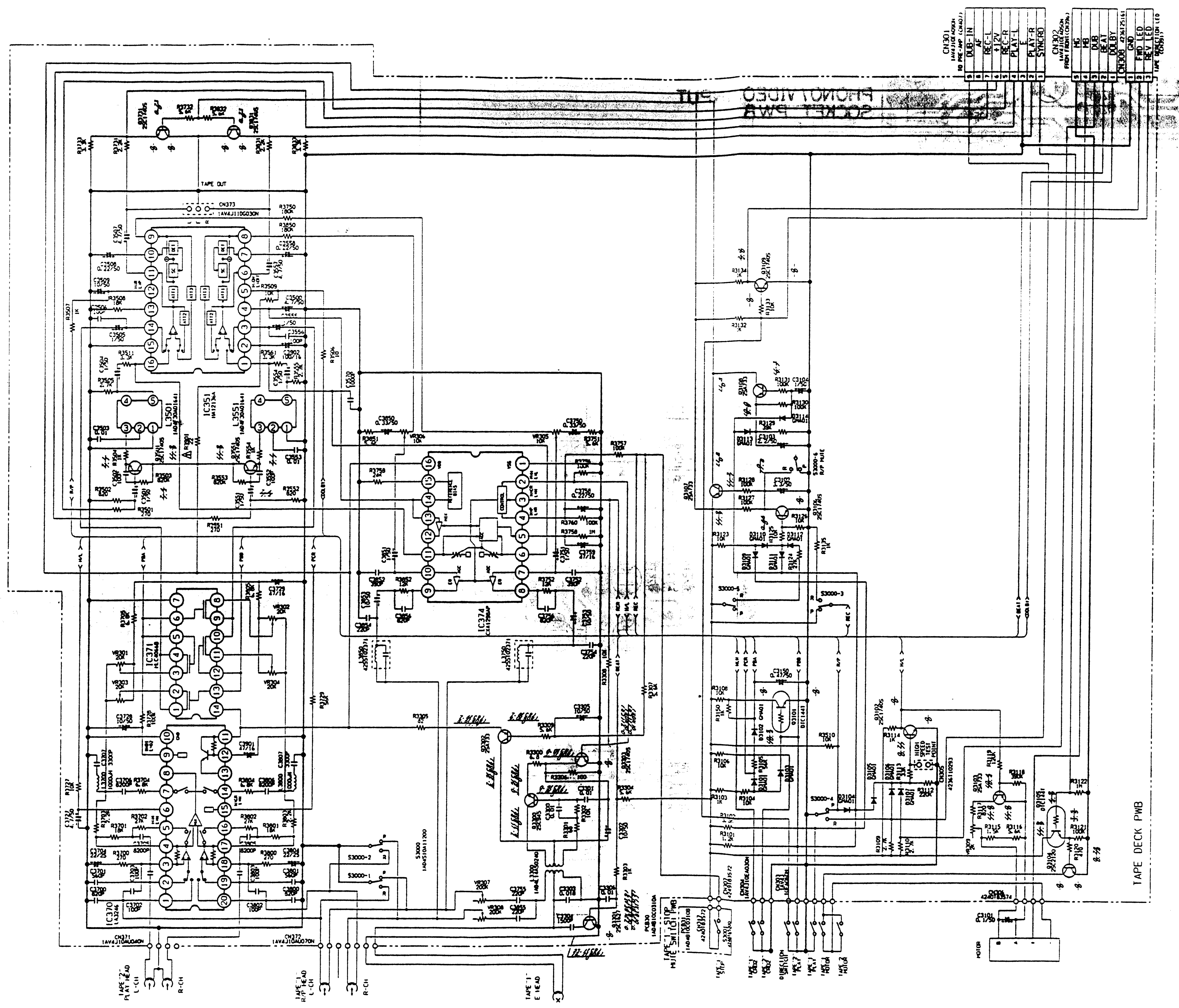
SCHEMATIC DIAGRAM (PRE-AMP.)


CN406
PH L-CH
E
PH R-CH
+12V
VIDEO L-CH
E
VIDEO R-CH
FROM VIDEO/ PHONO INPUT SOCKET (CN405)
IC402 BU4052
IC403 BU4052
IC404 NJM4558L
IC405 NJM4558L
FC
FB
FA
TO CD (CN105)
CN402
MUTE
L-CH
E
R-CH
CN403
TU_R-CH
E
TU_L-CH
+12V
+5V(US)
TO TUNER (CN241)
CN404
R-CH OUT
E
L-CH OUT
+12V
BASS
VOL UP
VOL DOWN
E
TO FRONT (CN420)
Q1502 2SC1740S
Q1503 2SC1740S
Q1504 DTA123YS
Q4602 2SK246
Q4502 2SK246
Q4603 2SC1815
Q4503 2SC1815
Q4650 GMA01
Q4550 GMA01
Q4501 2SD1468
Q4601 2SD1468
D4919 MTZJ8.2B
D4990 MTZJ5.1B
IC407 LB1641
FROM TAPE DECK (CN301)
CN407
SYNCRO
PLAY_R
E
PLAY_L
REC_R
+12V
REC_L
AF
DUB_IN
CN485 ASSY CONNECTOR
CN409
FL
FL
-34V
+5V(US)
D. GND
MB(SW)
MG
V_CHECK
TO POWER AMP (CN452)
CN413
MB(SW)
MG
-34V
FL
FL
VOL UP
VOL DOWN
TO FRONT (CN422)
CN410
E
PROTECT
SP.RY
P.RY
+12V(SW)
MUTE
TO POWER AMP (CN451)
CN414
V_CHECK
DUB_IN
SYNCRO
PROTECT
FA
FB
FC
SP.RY
-400B
MUTE
P.RY
D.GND
+5V(US)
TO FRONT (CN423)
PRE-AMP PWB

WIRING DIAGRAM (PRE-AMP.)


CN405
PHONO / VIDEO INPUT
SOCKET P.W.B
1AD4B10C1213G CMKS-P3X
CN401
R-CH
L-CH
R-CH
L-CH
VIDEO
PHONO
TUNER P.W.B
(CN241)
⑨
TAPE DECK P.W.B
(CN301)
⑩
POWER AMP P.W.B
(CN451)
⑬
(CN452)
⑫
CN403
CN407
CN406
CN410
CN409
TUNER IN
DECK IN
CD IN
1AD4B10C1203A CMKS-P3X
IC405
IC404
IC403
IC402
IC407
CN414
PRE - AMP P.W.B
CN413
CN404
CN402
②
FRONT P.W.B (CN423)
③
FRONT P.W.B (CN422)
④
FRONT P.W.B (CN420)
⑪
CD MAIN P.W.B (CN105)

SCHEMATIC DIAGRAM (TAPE DECK)


CN301
TO PRE-AMP (CN401)
DUB-IN
AF
REC-L
+12V
REC-R
PLAY-L
E
PLAY-R
SYNCRO
CN302
FROM FRONT (CN396)
MG
MB
DUB
BEAT
DOLBY
GND
FWD LED
REV LED
TAPE OUT
CN373
IC351
L3501
L3551
IC374
IC371
IC370
CN371
CN372
TAPE "2" PLAY HEAD
L-CH
R-CH
TAPE "1" R/P HEAD
TAPE "1" E HEAD
S3000-1
S3000-2
S3000-3
S3000-4
S3000-5
S3000-6
R/P MUTE
MOTOR
TAPE DECK PWB

IC351

NO.	PLAY	REC	OTHER
1	6.0	6.0	
2	11.7	11.7	
3	6.0	6.0	
4	6.0	6.0	
5	0	0	11.5(DOLBY ON)
6	6.0	6.0	
7	1.26	1.26	
8	6.0	6.0	
9	6.0	6.0	
10	1.26	1.26	
11	6.0	6.0	
12	0	10.9	0.6(DUB)
13	0.92	0.92	
14	6.0	6.0	
15	0	0	
16	6.0	6.0	

IC374

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	11.4(HIDUB)
3	0	0	10.7(CRO2)
4	5.9	0	
5	0	0	0.74 (ALC DOING)
6	6.0	6.0	
7	6.0	6.0	
8	5.8	5.8	
9	5.8	5.8	
10	6.0	6.0	
11	6.0	6.0	
12	6.0	6.0	
13	6.0	6.0	
14	6.0	6.0	
15	1.23	1.23	
16	11.9	11.9	

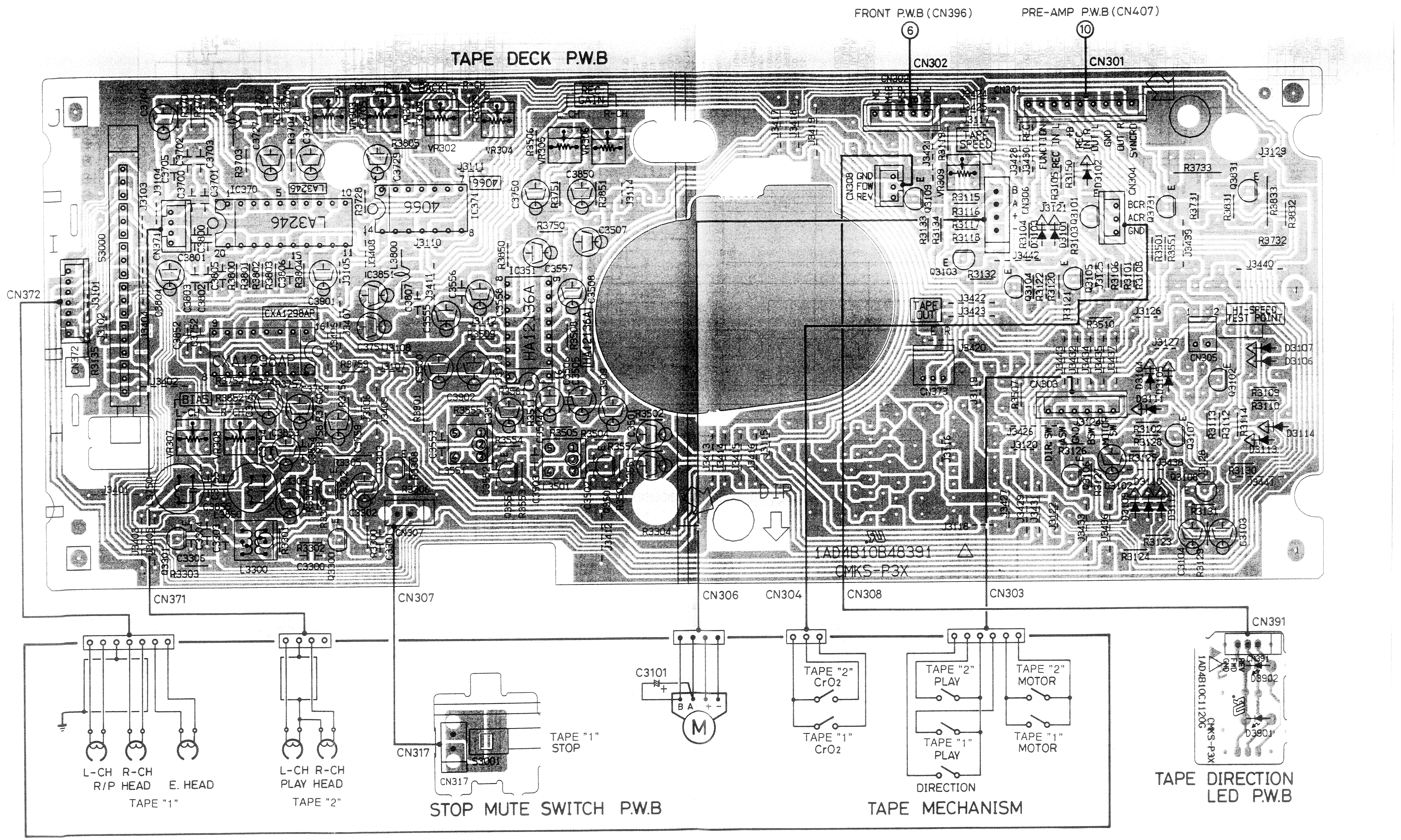
IC370

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.58	0.58	
4	4.9	4.9	
5	4.9	4.9	
6	0	0	7.2(HIGH SPEED DUBBING)
7	0	0	
8	4.9	4.9	
9	0	1.04	6.8(TAPE "2" PLAY)
10	0	0	
11	11.9	11.9	
12	11.9	11.9	
13	11.1	11.1	
14	0	0	
15	1.62	1.62	6.9(CRO2)
16	4.9	4.9	
17	4.9	4.9	
18	0.58	0.58	
19	0	0	
20	0	0	

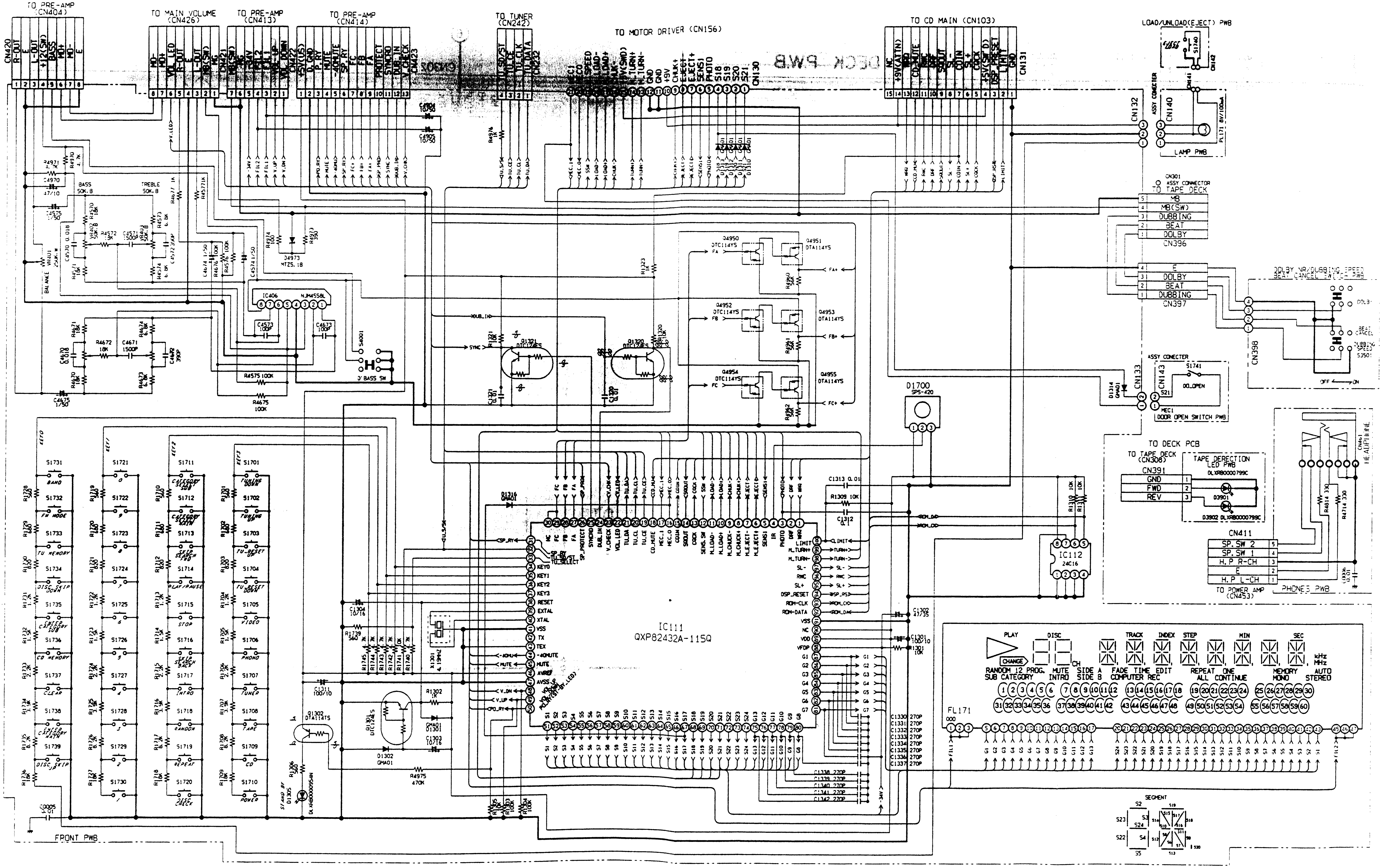
IC371

NO.	PLAY	REC	OTHER
1	4.9	4.9	
2	4.9	4.9	
3	4.9	4.9	
4	4.9	4.9	
5	1.16	1.16	11.4 (TAPE "2" PLAY)
6	1.16	1.16	11.4
7	0	0	
8	4.9	4.9	
9	4.9	4.9	
10	4.9	4.9	
11	4.9	4.9	
12	10.4	10.4	0 (TAPE "2" PLAY)
13	10.4	10.4	0
14	11.9	11.9	

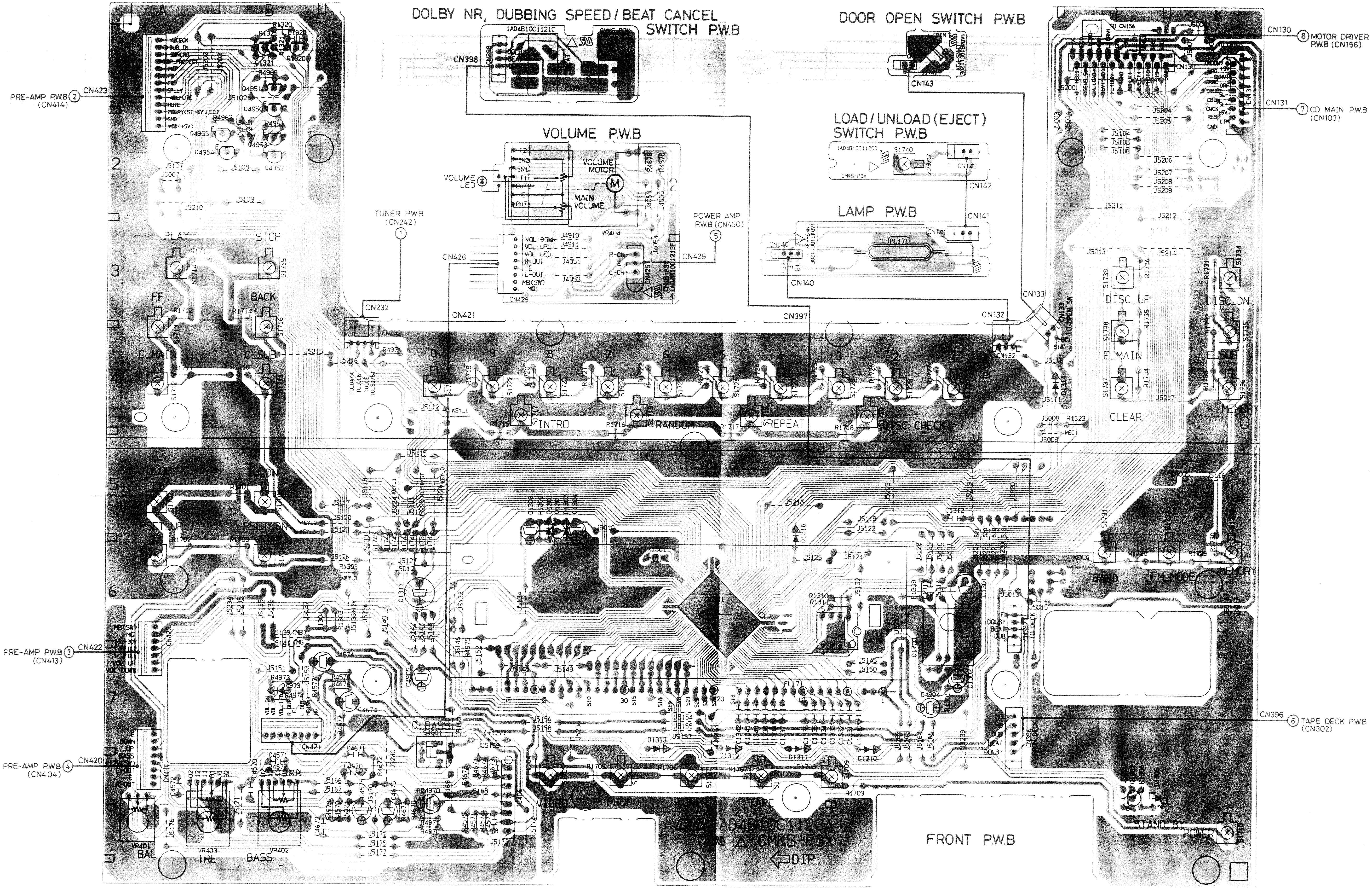
WIRING DIAGRAM (TAPE DECK)


TAPE DECK P.W.B
FRONT P.W.B (CN396)
⑥
PRE-AMP P.W.B (CN407)
⑩
CN302
CN301
CN372
CN371
CN307
CN306
CN304
CN308
CN303
CN391
LA3246
4066
CXA1298AP
HA12136A
REC GAIN
PLAYBACK
L-CH
R-CH
TAPE SPEED
TAPE OUT
HI-SPEED TEST POINT
BIAS
DIR
1AD4B10B48391
CMKS-P3X
C3101
M
L-CH R-CH R/P HEAD
E. HEAD
TAPE "1"
L-CH R-CH PLAY HEAD
TAPE "2"
CN317
S3001
TAPE "1" STOP
STOP MUTE SWITCH P.W.B
TAPE "2" CrO2
TAPE "1" CrO2
TAPE "2" PLAY
TAPE "1" PLAY
DIRECTION
TAPE "2" MOTOR
TAPE "1" MOTOR
TAPE MECHANISM
1AD4B10C11206
CMKS-P3X
D3902
D3901
TAPE DIRECTION LED P.W.B

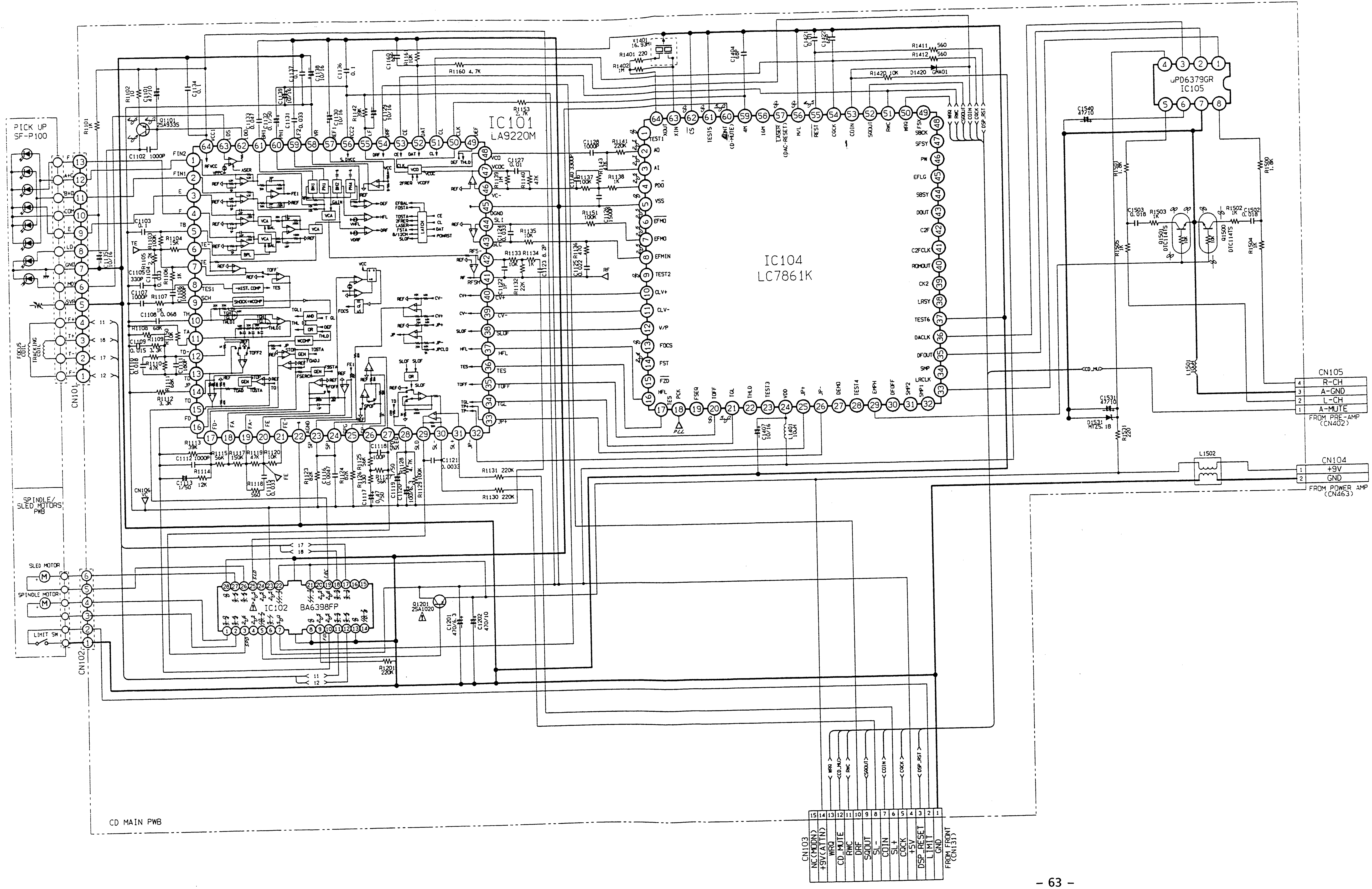
SCHEMATIC DIAGRAM (FRONT:SYSTEM CONTROL)

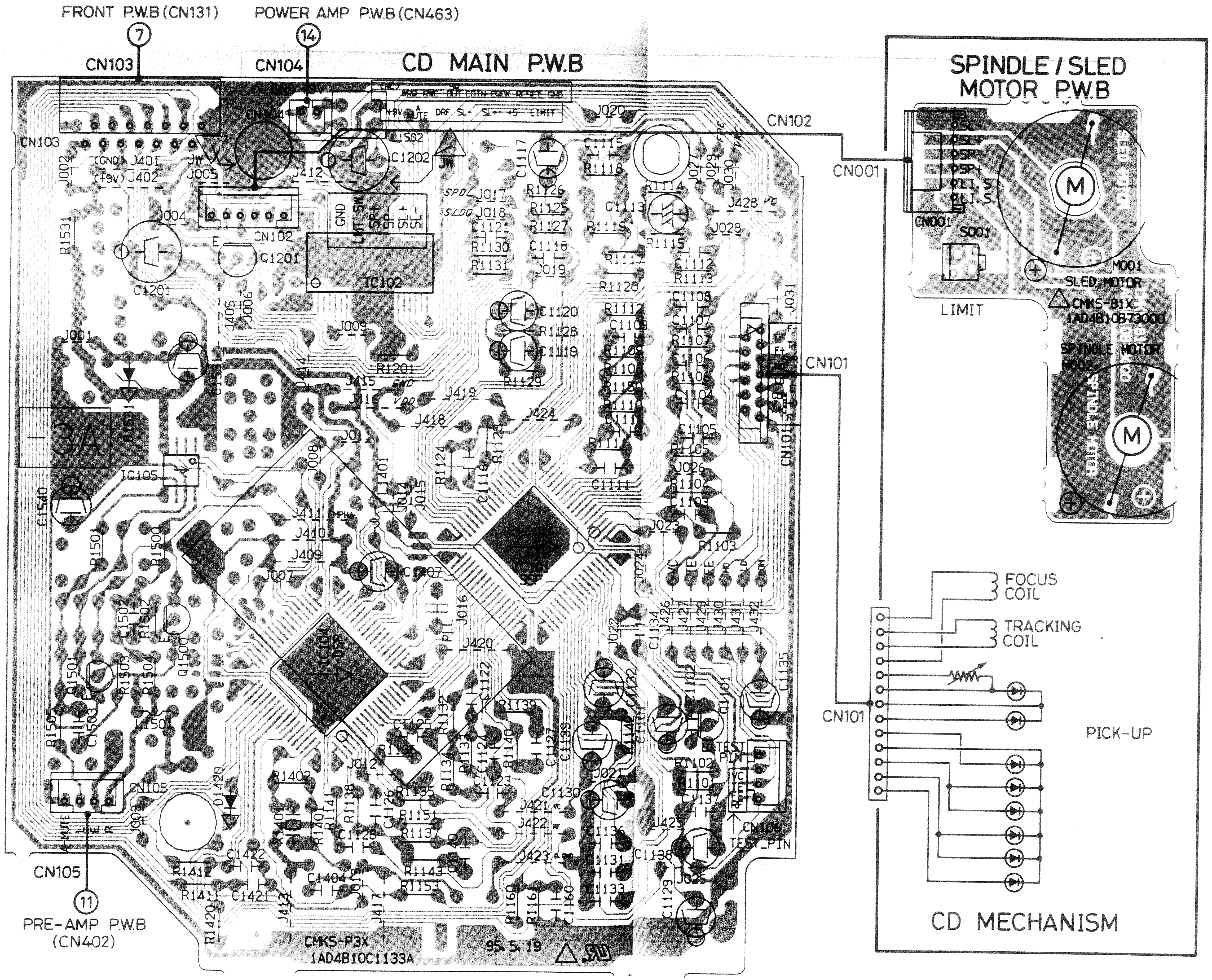

TO PRE-AMP (CN404)
CN420
TO MAIN VOLUME (CN426)
TO PRE-AMP (CN413)
CN422
TO PRE-AMP (CN414)
CN423
TO TUNER (CN242)
CN232
TO MOTOR DRIVER (CN156)
CN130
TO CD MAIN (CN103)
CN131
LOAD/UNLOAD(EJECT) PWB
S1740
CN142
CN141
CN140
CN132
ASSY CONECTER
PL171 8V/100mA
LAMP PWB
CN301
ASSY CONNECTOR
TO TAPE DECK
MB
MB(SW)
DUBBING
BEAT
DOLBY
CN396
E
DOLBY
BEAT
DUBBING
CN397
DOLBY NR/DUBBING SPEED BEAT CANCEL SWITCH PWB
CN398
S5301
OFF ON
ASSY CONECTER
CN143
S1741
DD_OPEN
MEC1
DOOR OPEN SWITCH PWB
CN133
D1700
SPS-420
TO DECK PCB
TO TAPE DECK (CN306)
CN391
GND
FWD
REV
TAPE DERECTION LED PWB
D3901
D3902
CN411
SP. SW 2
SP. SW 1
H. P R-CH
E
H. P L-CH
TO POWER AMP (CN453)
PHONES PWB
CN461 HEADPHONE
IC406
NJM4558L
BASS 50K.B
TREBLE 50K.B
BALANCE
S4001
D' BASS SW
Q4950 DTC114YS
Q4951 DTA114YS
Q4952 DTC114YS
Q4953 DTA114YS
Q4954 DTC114YS
Q4955 DTA114YS
Q1321
Q1320
IC111
QXP82432A-115Q
IC112
24C16
X1301
Q1302 DTA114YS
D1301
D1302
D1305
STAND BY
KEY0
KEY1
KEY2
KEY3
S1731 BAND
S1732 FM MODE
S1733 TU MEMORY
S1734 DISC SKIP DOWN
S1735 SHIFT CATEGORY
S1736 CD MEMORY
S1737 CLEAR
S1738 SHIFT CATEGORY MAIN
S1739 DISC SKIP UP
S1721
S1722
S1723
S1724
S1725
S1726
S1727
S1728
S1729
S1730
S1711 CATEGORY SEARCH SUB
S1712 CATEGORY SEARCH MAIN
S1713 SKIP SEARCH FWD
S1714 PLAY/PAUSE
S1715 STOP
S1716 SKIP SEARCH BACK
S1717 INTRO
S1718 RANDOM
S1719 REPEAT
S1720 DISC CHECK
S1701 TUNING DOWN
S1702 TUNING UP
S1703 TU-PRESET UP
S1704 TU-PRESET DOWN
S1705 VIDEO
S1706 PHONO
S1707 TUNER
S1708 TAPE
S1709 CD
S1710 POWER
FRONT PWB
FL171
PLAY
DISC
CH
CHANGE
TRACK
INDEX
STEP
MIN
SEC
kHz
MHz
RANDOM 12 PROG. MUTE SIDE A FADE TIME EDIT REPEAT ONE MEMORY AUTO
SUB CATEGORY INTRO SIDE B COMPUTER REC ALL CONTINUE MONO STEREO
SEGMENT

WIRING DIAGRAM (FRONT:SYSTEM CONTROL)

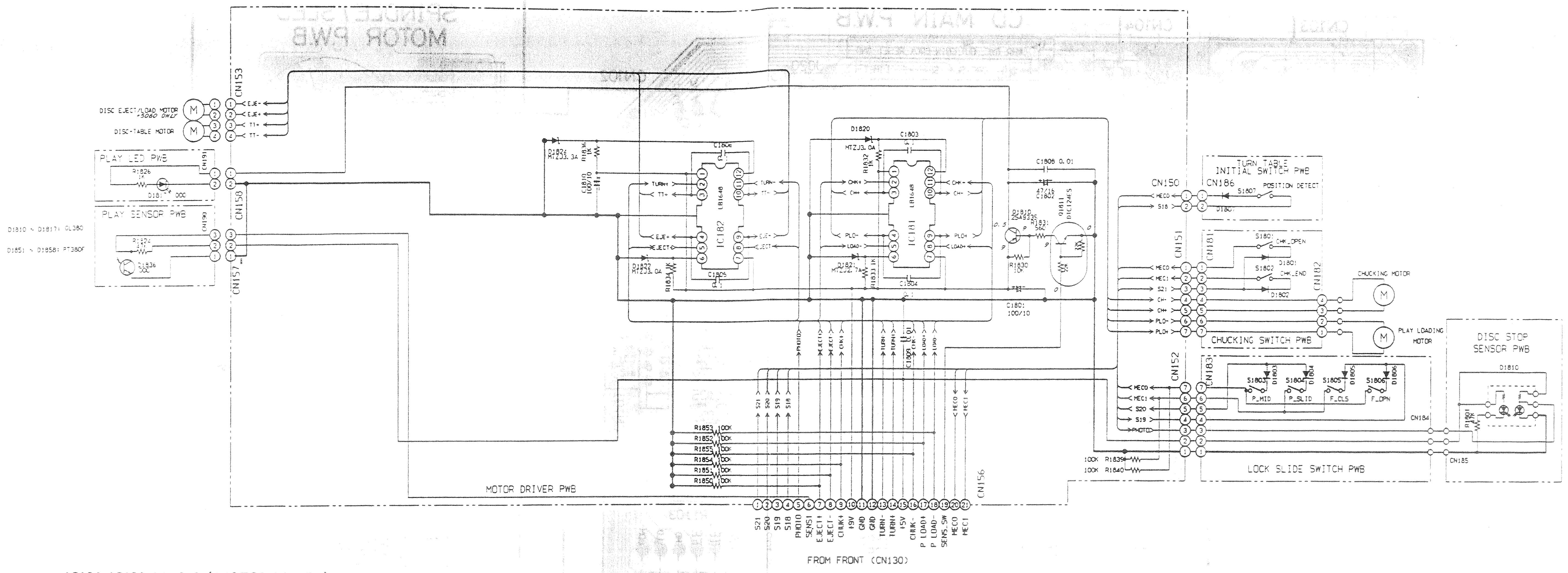

DOLBY NR, DUBBING SPEED / BEAT CANCEL SWITCH P.W.B
DOOR OPEN SWITCH P.W.B
VOLUME P.W.B
LOAD / UNLOAD (EJECT) SWITCH P.W.B
LAMP P.W.B
FRONT P.W.B
PRE-AMP PWB ② (CN414)
CN423
PRE-AMP PWB ③ (CN413)
CN422
PRE-AMP PWB ④ (CN404)
CN420
TUNER PWB (CN242) ①
POWER AMP PWB (CN450) ⑤
CN130
⑧ MOTOR DRIVER P.W.B (CN156)
CN131
⑦ CD MAIN PWB (CN103)
CN396
⑥ TAPE DECK PWB (CN302)
CN398
CN143
CN142
CN141
CN140
CN133
CN132
CN397
CN421
CN232
CN426
CN425
VOLUME LED
VOLUME MOTOR
MAIN VOLUME
PLAY
STOP
FF
BACK
C_MAIN
C_SUB
TU_UP
TU_DN
PSET_UP
PSET_DN
0
9
8
7
6
5
4
3
2
1
INTRO
RANDOM
REPEAT
DISC CHECK
DISC_UP
DISC_DN
E_MAIN
E_SUB
CLEAR
MEMORY
BAND
FM_MODE
VIDEO
PHONO
TUNER
TAPE
CD
STAND BY
POWER
BAL
TRE
BASS
VR401
VR402
VR403
VR404
FL171
PL171
X1301
1AD4B10C1123A
CMKS-P3X
DIP

SCHEMATIC DIAGRAM (CD)

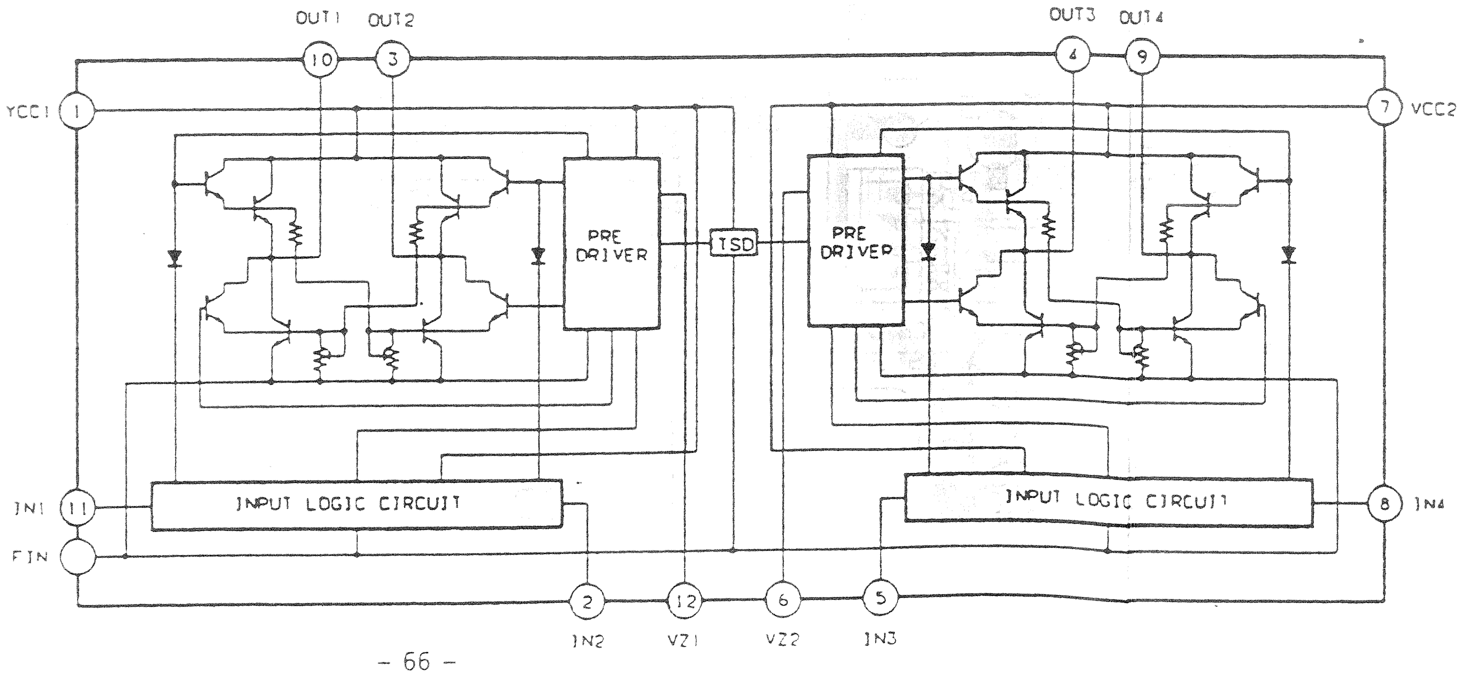

PICK UP
SF-P100
FOCUS COIL
TRACKING COIL
CN101
IC101
LA9220M
Q1101
2SA933S
IC104
LC7861K
X1401
16.93M
uPD6379GR
IC105
Q1500
DTC114TS
Q1501
DTC114TS
CN105
R-CH
A-GND
L-CH
A-MUTE
FROM PRE-AMP
(CN402)
CN104
+9V
GND
FROM POWER AMP
(CN463)
L1501
L1502
SPINDLE/
SLED MOTORS
PWB
SLED MOTOR
SPINDLE MOTOR
LIMIT SW
CN102
IC102
BA6398FP
Q1201
2SA1020
CD MAIN PWB
CN103
NC(MODN)
+9V(ATTN)
WRQ
CD_MUTE
RWC
DRF
SQOUT
SL-
COIN
SL+
COCK
+5V
DSP_RESET
LIMIT
GND
FROM FRONT
(CN131)


FRONT P.W.B (CN131)
⑦
POWER AMP P.W.B (CN463)
⑭
CN103
CN104
CD MAIN P.W.B
CN102
CN001
SPINDLE / SLED MOTOR P.W.B
SL-
SL+
SP-
SP+
LI.S
LI.S
S001
LIMIT
M001
SLED MOTOR
CMKS-81X
1AD4B10B73000
SPINDLE MOTOR
M002
M
CN101
FOCUS COIL
TRACKING COIL
PICK-UP
CD MECHANISM
IC101
IC102
IC104 DSP
IC105
3A
GND
LMT_SW
SP+
SP-
SL+
SL-
CN105
TEST PIN
CN106
CMKS-P3X
1AD4B10C1133A
95. 5. 19
⑪
PRE-AMP P.W.B
(CN402)

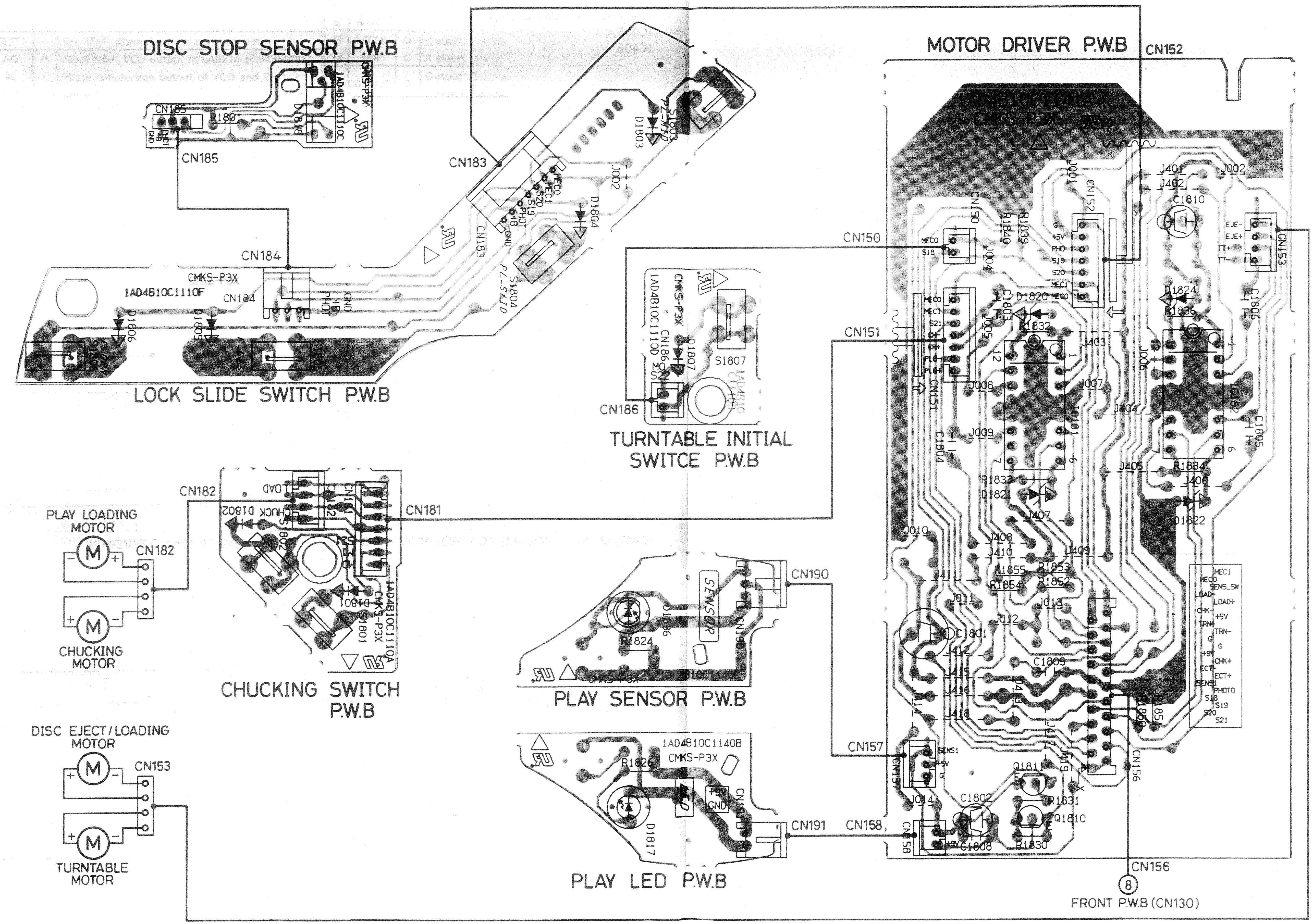
SCHEMATIC DIAGRAM (CD CHANGER)


CN153
DISC EJECT/LOAD MOTOR
*3060 ONLY
DISC-TABLE MOTOR
EJE-
EJE+
TT+
TT-
PLAY LED PWB
CN191
R1826
1K
D181 DOC
PLAY SENSOR PWB
CN190
R1824
47K
D1836
DOC
CN158
CN157
D1810 ~ D1817: GL380
D1851 ~ D1858: PT380F
IC182
LB1648
IC181
LB1648
TURN+
TURN-
TT+
TT-
EJE+
EJECT
CH+
CH-
PLO-
PLO+
LOAD
D1820
MTZJ3.0A
D1822
MTZJ3.3A
C1803
C1804
C1805
C1806
C1808 0.01
C1801
100/10
C1810
100/10
D1812
2SA933S
R1830
10K
R1831
R1832
R1833
R1834
R1836
1K
MOTOR DRIVER PWB
R1853 100K
R1852 100K
R1855 100K
R1854 100K
R1851 100K
R1850 100K
S21
S20
S19
S18
PHOTO
SENS1
EJECT+
EJECT-
CHUK+
+9V
GND
GND
TURN-
TURN+
+5V
CHUK-
P LOAD+
P LOAD-
SENS_SW
MECO
MEC1
CN156
FROM FRONT (CN130)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
CN150
CN186
TURN TABLE
INITIAL SWITCH PWB
S1807
POSITION DETECT
D1807
CN151
CN181
S1801
CHK_OPEN
D1801
S1802
CHK_END
D1802
CN182
CHUCKING MOTOR
PLAY LOADING MOTOR
CH-
CH+
PLO-
PLO+
CHUCKING SWITCH PWB
DISC STOP
SENSOR PWB
D1810
R1801
CN152
CN183
S1803
S1804
S1805
S1806
D1803
D1804
D1805
D1806
P_MID
P_SLID
F_CLS
F_OPN
CN184
CN185
100K R1839
100K R1840
LOCK SLIDE SWITCH PWB

IC181, IC182 LB1648 (MOTOR DRIVER)

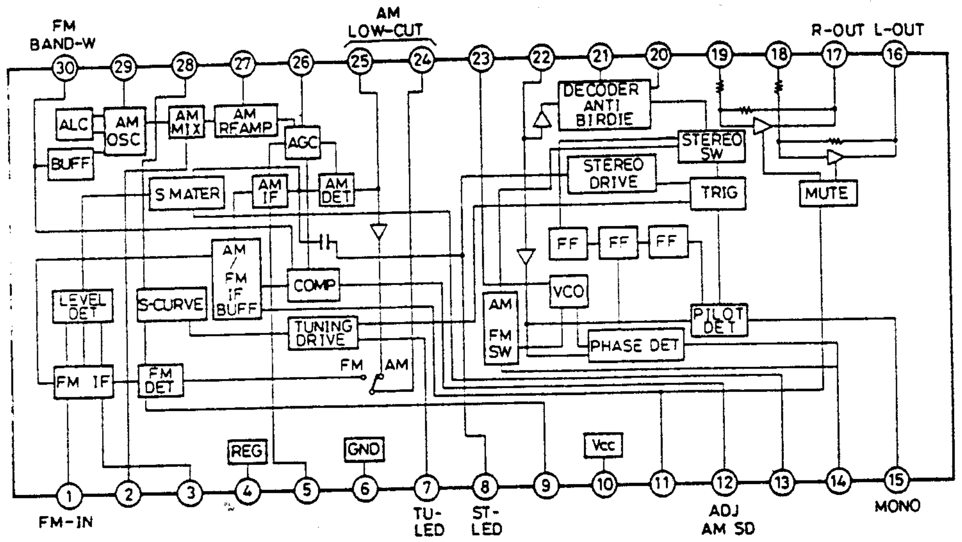

OUT1
OUT2
OUT3
OUT4
10
3
4
9
VCC1
1
VCC2
7
PRE
DRIVER
TSD
PRE
DRIVER
INPUT LOGIC CIRCUIT
INPUT LOGIC CIRCUIT
IN1
11
FIN
IN4
8
2
12
6
5
IN2
VZ1
VZ2
IN3

IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	OPEN	OPEN	0	0	OPEN	OPEN
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

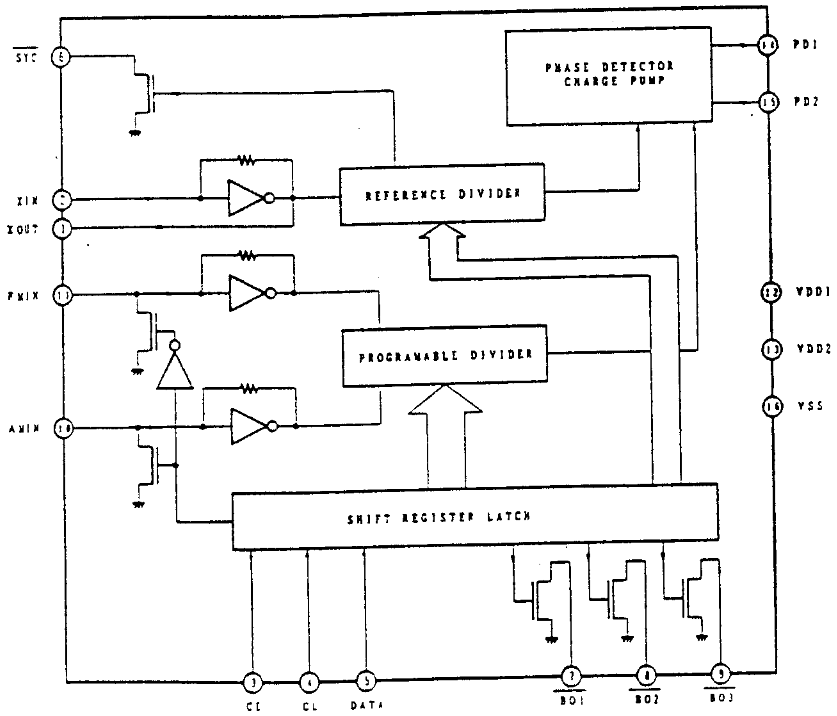

DISC STOP SENSOR P.W.B
CN185
R1801
D1818
CMKS-P3X
1AD4B10C1110C
PHOT
+B
GND
S1803
D1803
CN183
J002
D1804
MEC0
MEC1
S20
S19
S1804
PL-SLID
CN184
CMKS-P3X
1AD4B10C1110F
D1806
D1805
S1806
S1805
LOCK SLIDE SWITCH P.W.B
MOTOR DRIVER P.W.B
CN152
1AD4B10C1110A
CMKS-P3X
J001
J401
J402
J002
C1810
CN150
R1839
R1840
CN153
EJE-
EJE+
TT+
TT-
D1824
R1836
C1806
D1820
C1803
R1832
J403
J006
CN151
J005
J008
J007
IC181
IC182
J404
C1805
J009
C1804
J405
R1834
J406
R1833
D1821
J407
D1822
J010
J408
J410
J409
R1855
R1853
R1854
R1852
J411
J011
J013
J012
C1801
C1809
J412
J415
J416
J418
J413
J414
J417
J419
CN156
CN157
SENS1
+5V
G
Q1811
R1831
Q1810
C1802
J014
CN158
C1808
R1830
MEC1
MEC0
SENS_SW
LOAD-
LOAD+
CHK-
+5V
TRN+
TRN-
G
+9V
CHK+
ECT-
ECT+
SENS1
PHOTO
S18
S19
S20
S21
CMKS-P3X
1AD4B10C1110D
CN186
S1807
D1807
TURNTABLE INITIAL SWITCE P.W.B
PLAY LOADING MOTOR
CN182
CHUCKING MOTOR
CN181
LOAD
CHUCK
D1802
S1802
D1801
S1801
1AD4B10C1110A
CMKS-P3X
CHUCKING SWITCH P.W.B
CN190
SENSOR
D1816
R1824
PLAY SENSOR P.W.B
DISC EJECT/LOADING MOTOR
CN153
TURNTABLE MOTOR
1AD4B10C1140B
CMKS-P3X
R1826
+5V
GND
CN191
D1817
PLAY LED P.W.B
CN156
8
FRONT P.W.B (CN130)

IC BLOCK DIAGRAM & DESCRIPTION

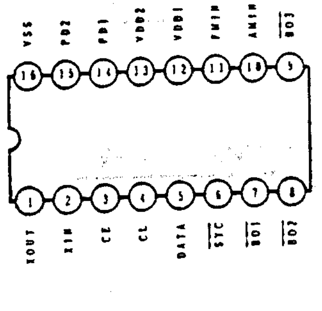
IC231 LA1836 (AM/FM TUNER)


FM BAND-W
AM LOW-CUT
R-OUT L-OUT
ALC
AM OSC
AM MIX
AM RFAMP
AGC
BUFF
S MATER
AM IF
AM DET
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
AM / FM IF BUFF
COMP
FF
FF
FF
LEVEL DET
S-CURVE
TUNING DRIVE
AM FM SW
VCO
PILOT DET
PHASE DET
FM IF
FM DET
FM AM
REG
GND
Vcc
FM-IN
TU-LED
ST-LED
ADJ AM SD
MONO
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16

IC245 LM7001 (PLL SYNTHSIZER)


SYC
XIN
XOUT
FMIN
AMIN
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
PROGRAMABLE DIVIDER
SHIFT REGISTER LATCH
PD1
PD2
VDD1
VDD2
VSS
CE
CL
DATA
BO1
BO2
BO3

$\overline{SYC}$	: CLOCK CONTROLLER (400HZ)
XIN. XOUT	: XTAL OSC (7.2MHZ)
FMIN. AMIN	: LOCAL OSCILLATION SIGNAL INPUT
CD. CL. DATA	: DATA INPUT
$\overline{BO1}$ $\overline{BO2}$ $\overline{BO3}$	: BAND DATA OUTPUT
VDD1 VDD2 VSS	: POWER SUPPLY (VDD2 IS BACK-UP BATTERY)
PD1. PD2	: CHARGE PUMP OUTPUT


VSS 16
PD2 15
PD1 14
VDD2 13
VDD1 12
FMIN 11
AMIN 10
BO3 9
XOUT 1
XIN 2
CE 3
CL 4
DATA 5
STC 6
BO1 7
BO2 8

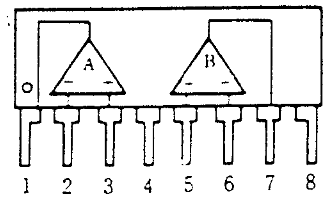
IC BLOCK DIAGRAM & DESCRIPTION

IC401 NJM4558L (OP. AMP./PHONO AMP.)

IC404 NJM4558L (OP. AMP.)

IC405,

IC406


A
B
1 2 3 4 5 6 7 8

1 . A OUTPUT
2 . A−INPUT
3 . A+INPUT
4 . V-
5 . B+INPUT
6 . B−INPUT
7 . B OUTPUT
8 . V+

IC402 BU4052BC (FUNCTION)

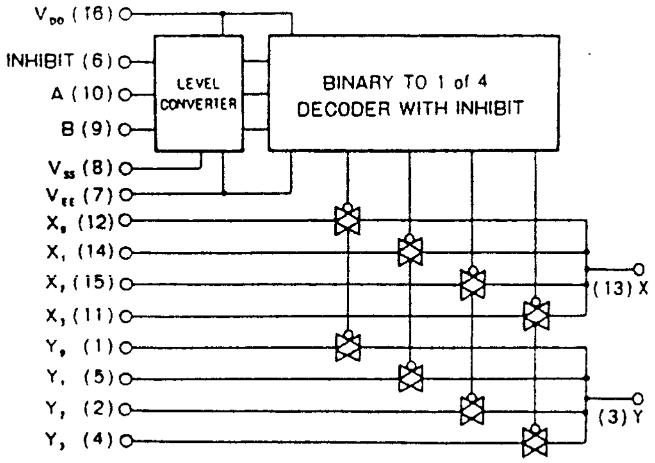
IC403

Truth Table

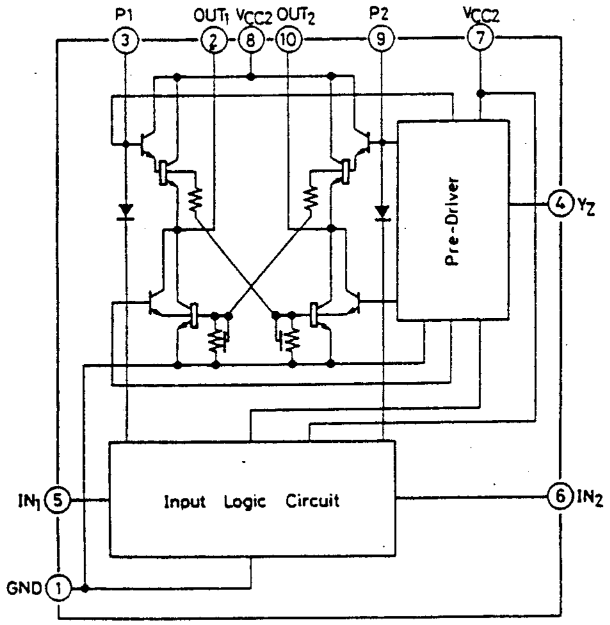
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

X : Don't Care

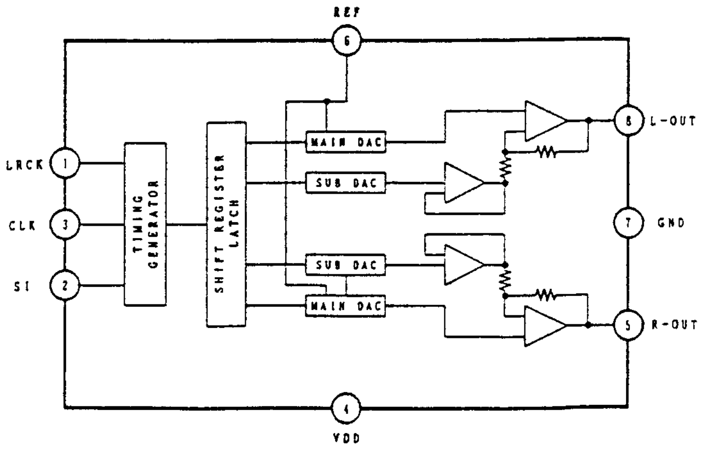
Logic Diagram


V_DD (16)
INHIBIT (6)
A (10)
B (9)
V_ss (8)
V_EE (7)
X_0 (12)
X_1 (14)
X_2 (15)
X_3 (11)
Y_0 (1)
Y_1 (5)
Y_2 (2)
Y_3 (4)
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
(13) X
(3) Y

IC407 LB1641 (VOLUME CONTROL MOTOR DRIVER)


P1
OUT1
VCC2
OUT2
P2
VCC2
3
2
8
10
9
7
Pre-Driver
4 Yz
IN1 5
6 IN2
GND 1
Input Logic Circuit

IC105 µPD6379 (D/A CONVERTER)


REF 6
LRCK 1
CLK 3
SI 2
TIMING GENERATOR
SHIFT REGISTER LATCH
MAIN DAC
SUB DAC
SUB DAC
MAIN DAC
8 L-OUT
7 GND
5 R-OUT
4 VDD

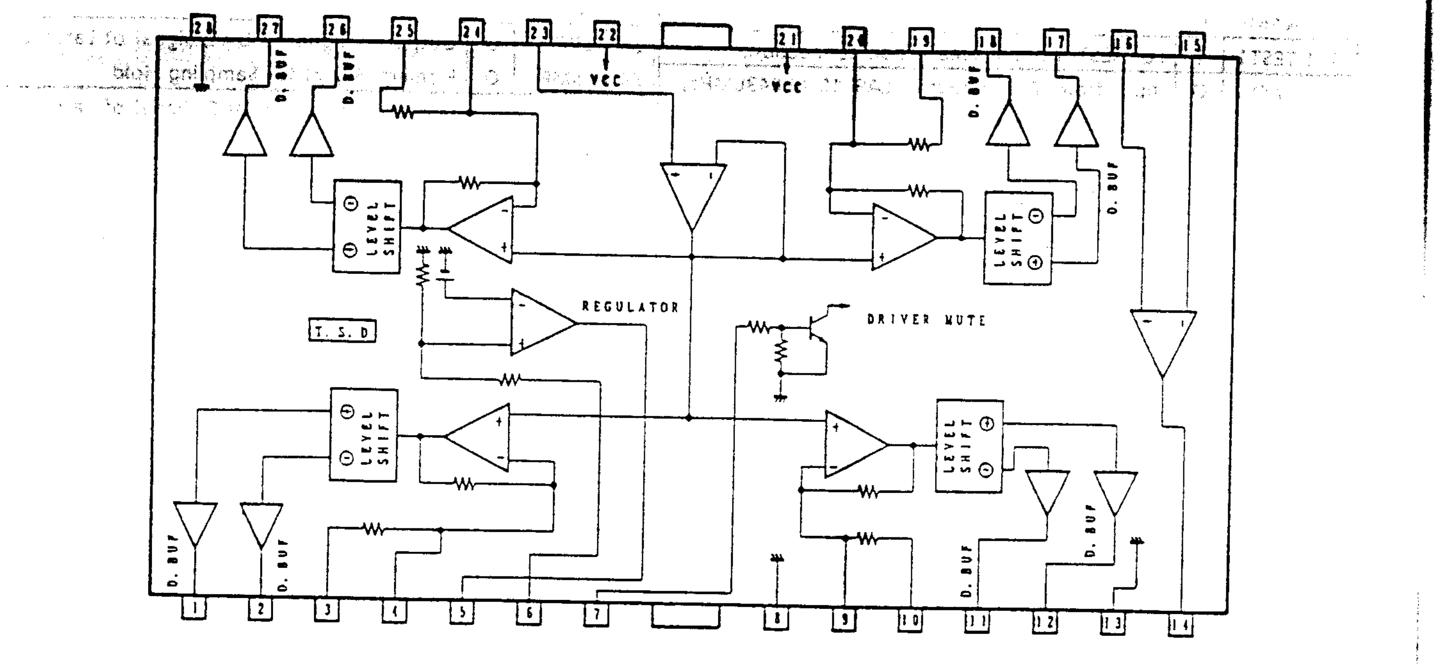
IC BLOCK DIAGRAM & DESCRIPTION

IC101 LA9220M (SERVO SIGNAL PROCESSOR)

No.	PIN NAME	I / O	DESCRIPTION
1	FIN2	I	Connection Pin for Photo Diode of Pickup. FIN2 + FIN1 = RF, FIN2-FIN1 = FE
2	FIN1	I	
3	E	I	Connection Pin for Photo Diode of Pickup. E-F = TE
4	F	I	
5	TB	I	Input Pin for DC ingredient of TE Signal.
6	TE-	I	Connection Pin for Gain Setting Resistor of TE Signal to TE Signal pin.
7	TE	O	Output Pin for Tracking Error Signal .
8	TESI	I	Input Pin for Track Error Sense Comparator. TE Signal through Band pass, and Inputted.
9	SCI	I	Input Pin for Shock Detection.
10	TH	I	Connection Pin for Time Constant Setting of Tracking Gain.
11	TA	O	Output Pin for TA Amplifier.
12	TD-	I	Connection Pin for Constant of Tracking Phase Compensation, Consist of between TD and VR.
13	TD	I	Connection Pin for Constant of Tracking Phase Compensation.
14	JP	I	Connection Pin for Amplitude Setting of Tracking Jump (Kick Pulse) Signal.
15	TO	O	Output Pin for Tracking Control Signal.
16	FD	O	Output Pin for Focusing Control Signal.
17	FD-	I	Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD and FA.
18	FA +	I	Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD- and FA-.
19	FA-	I	Connection Pin for Constant of Focusing Phase Compensation, Consist of between FA and FE.
20	FE	O	Output Pin for Focusing Error Signal .
21	FE-	I	Connection Pin for Gain Setting Resistor of FE Signal to FE Signal pin.
22	AGND	-	Ground for Analog Signal.
23	SP	O	Output Pin for Single End of Input Signal of the CV +, CV- Pin.
24	SPI	I	Input Pin for Spindle Amplifier.
25	SPG	I	Connection Pin for Gain Setting Resistor, when Spindle 12 cm Mode.
26	SP-	I	Connection Pin for Constant of Spindle Phase Compensation with SPD Pin.
27	SPD	O	Output Pin for Spindle Control Signal.
28	SLEQ	I	Connection Pin for Constant of Sled Phase Compensation.
29	SLD	O	Output Pin for Sled Control Signal.
30	SL-	I	Input Pin for Sled Signal from Micro Processor.
31	SL +	I	
32	JP-	I	Input Pin for Tracking Jump Signal from Digital Signal Processor.
33	JP +	I	
34	TGL	I	Input Pin for Tracking Gain Control Signal from Digital Signal Processor. TGL = H: Gain Low
35	TOFF	I	Input Pin for Tracking Off Control Signal from Digital Signal Processor. TOFF = H: Off
36	TES	O	Output Pin for Track Error Sense Signal to Digital Signal Processor.
37	HFL	I	High Frequency Level Signal use Detection Main-Beam Position is on the pit or mirror.
38	SLOF	I	Input Pin for Sled Servo Off Control.
39	CV-	I	Input Pin for Constant Linear Velocity Error Signal from Digital Signal Processor.
40	CV +	I	
41	RFSM	O	Output Pin for RF Signal.
42	RFS-	I	Connection Pin for Gain Setting of RF and Constant Setting of 3T Compensation of the EFM Signal with RFSM Pin.
43	SLC	O	Slice Level Control Signal is Output Pin, It Control Level of Data-Slice by Digital Signal Processor of the RF Waveform.
44	SLI	I	Input Pin for Level Control of Data-Slice by Digital Signal Processor.
45	DGND	-	Ground for Digital Signal.
46	VC-	I	Input Pin For VCO Control Amplifier, Consist of PLL Loop Filter with VCOC and PDO of Digital Signal Processor.
47	VCOC	O	Output Pin for VCO Control Signal.
48	VCO	O	Output Pin for VCO Signal.
49	DEF	O	Output Pin for Defect Detection of Disc.
50	CLK	I	Input Pin for Reference Clock Pulse, Input 4.23 MHz of Digital Signal Processor.
51	CL	I	Input Pin of Clock Pulse for Command from Micro Processor.
52	DAT	I	Input Pin of Data for Command from Micro Processor.
53	CE	I	Input Pin of Chip Enable for Command from Micro Processor.
54	DRF	O	Detect RF Signal is Output Pin for RF Level Detection.
55	LF	I	Connection Pin for Adjusting of VCO Free-run.
56	VCC2	-	VCC for Servo and Digital Root.
57	REFI	I	Bus Control Connection Pin for Reference Voltage.
58	VR	O	Output Pin for Reference Voltage.
59	LF2	I	Connection Pin for Time Constant Setting of Defect Detection of the Disc.
60	PH1	1	Capacitor Connection Pin for Peak-hold of RF Signal.
61	BH1	I	Capacitor Connection Pin for Bottom-hold of RF Signal.
62	LDD	O	Output Pin of APC (Automatic Power Control) Circuit.
63	LDS	I	Input Pin of APC (Automatic Power Control) Circuit.
64	VCC1	I	VCC for RF Root

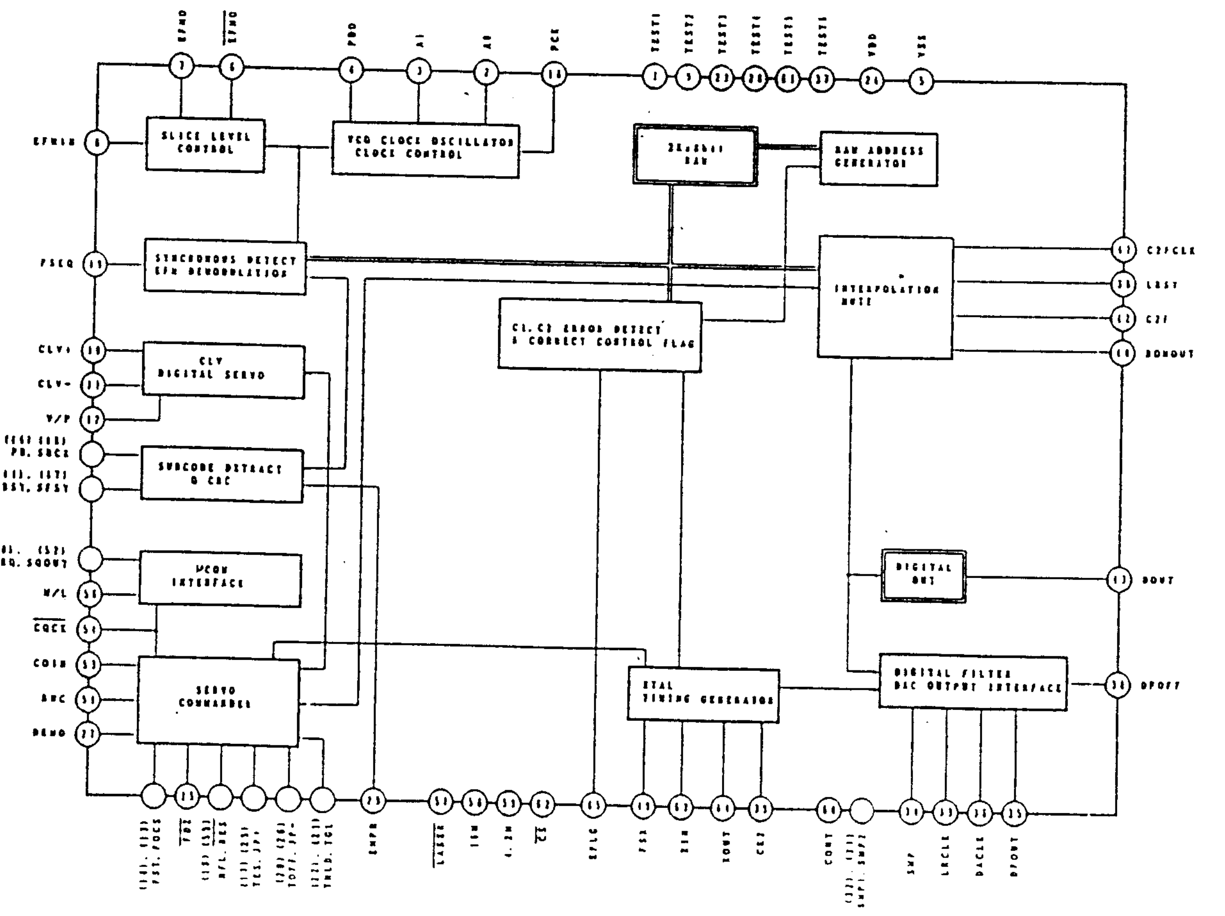
IC BLOCK DIAGRAM & DESCRIPTION

IC102 BA6398FP (POWER DRIVER)


28
27
26
25
24
23
22
21
20
19
18
17
16
15
D. BUF
VCC
LEVEL SHIFT
REGULATOR
T. S. D
DRIVER MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14

T. S. D : THERMAL SHUT DOWN D. BUF : DRIVE BUFFER

IC104 LC7861KE (CD PLAYER SIGNAL & SERVO CONTROL)


EFMO
EFMO
PDO
AI
AO
PCK
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
VDD
VSS
EFMIN
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATOR CLOCK CONTROL
RAM
RAM ADDRESS GENERATOR
FSEQ
SYNCHRONOUS DETECT EFM DEMODULATION
INTERPOLATION MUTE
C2FCLK
LRSY
C2F
ROMOUT
C1, C2 ERROR DETECT & CORRECT CONTROL FLAG
CLV+
CLV-
CLV DIGITAL SERVO
V/P
PW, SBCK
SUBCODE EXTRACT & CRC
SBSY, SFSY
SQOUT
MCON INTERFACE
DIGITAL OUT
DOUT
SERVO COMMANDER
XTAL TIMING GENERATOR
DIGITAL FILTER DAC OUTPUT INTERFACE
DFOUT

IC BLOCK DIAGRAM & DESCRIPTION

IC104 LC7861KE (CD PLAYER SIGNAL & SERVO CONTROL)

No	PIN NAME	I/O	DESCRIPTION
1	TEST1	I	For TEST. Normal time is non connection.
2	AO	O	Input from VCO output in LA9210 .(8.6436MHz)
3	AI	I	Phase comparison output of VCO and EFM signal.
4	PDO	O	
5	VSS		GND
6	EFMO	O	Negative output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
7	EFMO	O	Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
8	EFMIN	I	Inputting HF signal of 1~2$V_{p.p}$. This signal use SLICE LEVEL CONTROL.
9	TEST2	I	For TEST. Normal time is non connection.
10	CLV+	O	Output for DISC MOTOR CONTROL.
11	CLV-	O	Output for DISC MOTOR CONTROL.
12	V/P	O	CLV rough Servo time : Output "H" Phase control time : Output"L"
13	FOCS	O	Output "H" : Lens pull up with slowly than stop the Focus Servo. If FZD generate, it reset output of FOCS. For lead-in of Focus
14	FST	O	
15	FZD	I	
16	HFL	I	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
17	TES	I	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
18	PCK	O	PCK Monitor (4.3218MHz)
19	FSEQ	O	SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame)
20	TOFF	O	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
21	TGL	O	
22	THLD	O	
23	TEST3	I	For TEST. Normal time is non connection.
24	VDD		+5V
25	JP+	O	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
26	JP-	O	
27	DEMO	I	For adjustment of production process. Sound on function.
28	TEST4	I	For TEST. Normal time is non connection.
29	EMPH	O	Output is "H" time, it need de-emphasis
30	DFOFF	I	ON/OFF Switching of Digital Filter. Output "H" : Filter OFF
31	SMP2	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
32	SMP1	O	
33	LRCLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
34	SMP	O	
35	DFOUT	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
36	DACLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
37	DFIN	O	For TEST. Normal time is non connection.
38	LRSY	O	For output of signal that Comply with CD-ROM
39	CK2	O	For output of signal that Comply with CD-ROM
40	ROMOUT	O	For output of signal that Comply with CD-ROM
41	C2FLCK	O	For output of signal that Comply with CD-ROM
42	C2F	O	For output of signal that Comply with CD-ROM
43	DOUT	O	Output of DIGITAL OUT
44	SBSY	O	Synchronizing signal of sub-code block.
45	EFLG	O	For correction monitor of C1, C2, single, double.
46	PW	O	SFSY is Synchronizing signal of sub-code & frame. Clock of eighth send to SBCK then read out the sub-code of P, Q, R, S, T, U, V, & W.
47	SFSY	O	
48	SBCK	I	
49	FSX	O	Output of Synchronizing signal (7.35KHz)
50	WRQ	O	Data sub-code Q pass the CRC check then WRQ do "H". It detect at external, Data read out from SQOUT by send the CQCK. RWC set the "H" by Micro Processor then it let command by send with Synchronizing CQCK command data.
51	RWC	I	
52	SQOUT	O	
53	COIN	I	
54	CQCK	I	
55	RES	I	Turn on the Power Supply time : Once "L"
56	M/L	I	Data of SQOUT want at the LBS first time : M/L set the "L".
57	LASER	O	This output can control at Serial Control from Micro Processor
58	16M	O	16M Output (16.9344MHz)
59	4M	O	4M Output (4.2336MHz)
60	CONT	O	This output can control at Serial Control from Micro Processor
61	TEST5	I	For TEST. Normal time is non connection.
62	CS	I	Chip select Terminal. This terminal "L" : LC7866NE is active (Internal Resistor : Pull Down)
63	XIN	I	Connection Terminal of crystal oscillation (16.9344MHz)
64	XOUT	O	Connection Terminal of crystal oscillation (16.9344MHz)

IC BLOCK DIAGRAM & DESCRIPTION

IC111 CXP82432A-115Q or CXP82432A-113Q (MICROPROCESSOR)

No.	PIN NAME	I/O	DESCRIPTION
1	WRQ	I	DSP INTERFACE
2	DRF	I	DRF SIGNAL
3	PHOTO	I	60-DISC TABLE POSITION SENSOR
4	IR	I	REMOTE CONTROL SIGNAL
5	SENS1	I	DISC SENSOR, LOADING
6	M__EJECT+	O	EJECT MOTOR
7	M__EJECT-	O	EJECT MOTOR
8	M__CHUCK+	O	CHUCKING MOTOR CONTROL
9	M__CHUCK-	O	CHUCKING MOTOR CONTROL
10	M__LOAD+	O	PLAY LOADING MOTOR
11	M__LOAD-	O	PLAY LOADING MOTOR
12	SEN__P	O	SENSOR POWER CONTROL
13	CQCK	O	DSP CLOCK
14	SQOUT	I	DSP INTERFACE
15	COIN	O	DSP INTERFACE
16	MEC0	I	MECHANISM SWITCH, SWITCHING
17	MEC1	I	MECHANISM SWITCH, SWITCHING
18	CD__MUTE	O	CD MUTE (MUTE ON = "H")
19	TU__CE	O	TUNER IC CONROL
20	TU__CLK	O	TUNER IC CONROL
21	TU__DATA	O	TUNER IC CONROL
22	VOL__LED	O	VOLUME LED (ON = "L")
23	V__CHK	I	VOLTAGE CHECK, FAILURE
24	REC__SW	I	RECORDING SWITCH SIGNAL
25	SYNCRO	O	SYNCRO PLAY, TAPE MECHANISM
26	SP__PROTECT	I	POWER AMP PROTECT, NORMAL = "H"
27	FA	O	FUNCTION, A
28	FB	O	FUNCTION, B
29	FC	O	FUNCTION, C
30	PH6	O	
31	SP__RY	O	SPEAKER RELAY ON = "H"
32	TU__SD/ST	I	TUNER, STATION = "L", STEREO = "L"
33	TU__SEL	I	TUNER SELECT
34	KEY0	I	KEY INPUT
35	KEY1	I	KEY INPUT
36	KEY2	I	KEY INPUT
37	KEY3	I	KEY INPUT
38	RESET	-	RESET
39	EXTAL	-	X'TAL, 4.19MHz
40	XTAL	-	X'TAL, 4.19MHz
41	VSS	-	GND
42	TX	-	
43	TEX	-	GND
44	-40 dB MUTE	O	MUTE, -40 dB ON = "H"
45	-∞ MUTE	O	MUTE, -∞ ON = "H"
46	AVREF	-	REFERENCE VOLTAGE, A/D CONVERTER
47	AVSS	-	GND
48	VOL__UP	O	VOLUME CONTROL "UP"
49	VOL__DOWN	O	VOLUME CONTROL "DOWN"
50	POWER__RY	O	POWER RELAY
51	S0	O	FL DISPLAY, SEGMENT
52	S1	O	FL DISPLAY, SEGMENT
53	S2	O	FL DISPLAY, SEGMENT
54	S3	O	FL DISPLAY, SEGMENT
55	S4	O	FL DISPLAY, SEGMENT
56	S5	O	FL DISPLAY, SEGMENT
57	S6	O	FL DISPLAY, SEGMENT
58	S7	O	FL DISPLAY, SEGMENT
59	S8	O	FL DISPLAY, SEGMENT
60	S9	O	FL DISPLAY, SEGMENT
61	S10	O	FL DISPLAY, SEGMENT
62	S11	O	FL DISPLAY, SEGMENT
63	S12	O	FL DISPLAY, SEGMENT
64	S13	O	FL DISPLAY, SEGMENT
65	S14	O	FL DISPLAY, SEGMENT
66	S15	O	FL DISPLAY, SEGMENT
67	S16	O	FL DISPLAY, SEGMENT
68	S17	O	FL DISPLAY, SEGMENT
69	S18	O	FL DISPLAY, SEGMENT
70	S19	O	FL DISPLAY, SEGMENT
71	S20	O	FL DISPLAY, SEGMENT
72	S21	O	FL DISPLAY, SEGMENT
73	S22	O	FL DISPLAY, SEGMENT
74	S23	O	FL DISPLAY, SEGMENT
75	T12	O	FL DISPLAY, DIGIT
76	T11	O	FL DISPLAY, DIGIT
77	T10	O	FL DISPLAY, DIGIT
78	T9	O	FL DISPLAY, DIGIT
79	T8	O	FL DISPLAY, DIGIT
80	T7	O	FL DISPLAY, DIGIT
81	T6	O	FL DISPLAY, DIGIT
82	T5	O	FL DISPLAY, DIGIT
83	T4	O	FL DISPLAY, DIGIT
84	T3	O	FL DISPLAY, DIGIT
85	T2	O	FL DISPLAY, DIGIT
86	T1	O	FL DISPLAY, DIGIT
87	T0	O	FL DISPLAY, DIGIT
88	VFDP	-	-30V
89	VDD	-	+5V
90	NC	-	VDD
91	VSS	-	GND
92	ROM__DATA	I/O	ROM CONTROL DATA
93	ROM__CLK	O	ROM CONTROL DATA
94	DSP__RES	O	DSP RESET CONTROL
95	SL+	O	SLED MOTOR CONTROL
96	RWC	O	DSP INTERFACE
97	SL-	O	SLED MOTOR CONTROL
98	M__TURN+	O	TURNTABLE MOTOR CONTROL
99	M__TURN-	O	TURNTABLE MOTOR CONTROL
100	LIMIT__SW	I	PICK-UP LIMIT SWITCH

IC VOLTAGES

IC101 LA9220M

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STOP	0	2.5	0	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.6
PLAY	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.4	2.6	2.6	2.5	2.6	2.6	2.5
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
STOP	2.6	2.5	2.6	2.6	2.6	2.6	0	2.5	2.5	2.6	2.6	2.5	2.5	2.6	2.4
PLAY	2.6	2.5	2.6	2.5	2.6	2.6	0	2.5	2.5	2.5	2.6	2.8	2.5	2.7	2.4
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
STOP	2.4	0	0	5.0	5.0	0	0	5.0	0	0	1.6	2.4	2.5	2.5	0
PLAY	2.4	0	0	5.0	0	0.9	0	0	0	1.0	2.5	2.4	2.5	2.5	0
Pin No.	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
STOP	2.5	2.5	4.4	0	2.4	4.9	0	0	0	2.7	5.0	2.6	2.6	0	0
PLAY	2.6	1.8	4.4	0	2.4	4.9	4.8	0	4.9	2.7	5.0	2.6	2.6	2.7	2.7
Pin No.	**61**	**62**	**63**	**64**											
STOP	2.2	4.3	0	5.0											
PLAY	2.2	3.7	0	5.0											

IC102 BA6398FP

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STOP	4.2	4.2	2.5	2.5	8.0	5.0	0	0	2.5	0	4.1	0	0	8.4	0
PLAY	Fluc	Fluc	Fluc	2.5	7.8	5.0	5.0	0	0	2.5	4.1	4.2	0	8.4	0
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**		
STOP	0	4.1	4.1	2.6	2.5	8.9	8.9	2.5	2.5	2.5	4.2	4.2	0		
PLAY	0	Fluc	Fluc	0	2.5	8.9	8.9	2.5	2.5	Fluc	Fluc	Fluc	0		

IC104 LC7861K

* With Emphasis : 5 V

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STOP	0	2.3	2.3	2.7	0	2.3	2.3	2.6	0	0	0	5.0	0	2.5	4.2
PLAY	0	2.3	2.3	2.4	0	2.5	2.5	2.6	0	Fluc	0	0	0	2.5	4.2
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
STOP	4.2	0.5	1.8	0	5.0	5.0	0	0	5.0	0	0	0	0	0	5.0
PLAY	0	0.6	2.0	5.0	2.5	5.0	0	0	5.0	0	0	0	0	0 *	5.0
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
STOP	1.3.	1.3	2.5	2.5	0	2.3	0	2.5	2.3	1.8	2.5	4.6	2.6	0	2.3
PLAY	1.3	1.3	2.5	2.5	1.7	2.3	0	2.5	2.4	Fluc	2.5	0	2.7	0	0
Pin No.	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
STOP	0	2.5	0	2.5	0	0	0	0	5.0	5.0	0	5.0	2.3	2.0	5.0
PLAY	0	2.5	0	2.5	0	0	0	0	5.0	5.0	0	0	2.3	2.0	5.0
Pin No.	**61**	**62**	**63**	**64**											
STOP	0	0	2.5	2.5											
PLAY	0	0	2.5	2.5											

IC105 µPD6379GR

* With Emphasis : 0 V

(V)

Pin No.	1	2	3	4	5	6	7	8							
STOP	Fluc	Fluc	Fluc	5.0	2.5	5.0	0	2.5							
PLAY	Fluc	Fluc	Fluc	5.0	2.5	5.0	0	2.5							

Fluc : Fluctuation

IC VOLTAGES

IC111 CXP82432

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STOP	0	0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	5.0	0	5.0	0	0
PLAY	0	5.0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	5.0	0	5.0	0	5.0
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
STOP	Fluc	Fluc	0	0	0	0	0	5.0	0	0	4.3	0	0	0	0
PLAY	Fluc	Fluc	0	0	0	0	0	5.0	0	0	4.3	0	0	0	0
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
STOP	5.0	5.0	0	5.0	5.0	5.0	5.0	5.0	Fluc	Fluc	0	5.0	0	0	0
PLAY	5.0	5.0	0	5.0	5.0	5.0	5.0	5.0	Fluc	Fluc	0	5.0	0	0	0
Pin No.	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
STOP	5.0	0	5.0	5.0	5.0	-17	-2.5	-24	-25	-30	-29	-29	-29	-10	-18
PLAY	5.0	0	5.0	5.0	5.0	Fluc	0	0	-27	-27	-33	-33	-33	-19	-23
Pin No.	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**
STOP	-20	-13	-18	-28	-28	0	-14	-15	-23	-26	-27	-32	-32	-32	-28
PLAY	-19	-23	-14	-27	-33	0	-33	-11	Fluc	-27	0	-32	0	0	0
Pin No.	**76**	**77**	**78**	**79**	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**
STOP	-28	-28	-28	-28	-28	-27	Fluc	0	-27	-28	-28	-28	-33	5.0	0
PLAY	-26	Fluc	-26	Fluc	0	Fluc	-26	-26	-25	-26	-25	-7.6	-33	-8.0	-9.0
Pin No.	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**100**					
STOP	0	5.0	5.0	5.0	0	0	0	5.0	5.0	5.0					
PLAY	0	5.0	5.0	5.0	0	0	0	5.0	5.0	5.0					

IC112 LE24C16

(V)

Pin No.	1	2	3	4	5	6	7	8							
STOP / PLAY	0	0	0	0	5.0	0	5.0	5.0							

IC181 LB1648

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12			
STOP / PLAY	9.0	5.0	0.5	0.5	5.0	2.8	9.0	5.0	0.5	0.5	5.0	3.0			

IC182 LB1648

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12			
STOP / PLAY	9.0	0	0	0.5	5.0	2.1	9.0	5.0	0.5	0	0	3.0			

IC406 NJM4558L

(V)

Pin No.	1	2	3	4	5	6	7	8							
	5.3	5.3	5.3	0	5.3	5.3	5.3	10.5							

IC VOLTAGES

- PRE-AMP./POWER AMP SECTION

IC401 NJM4558L (V)

Pin No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**							
	5.3	5.3	5.3	0	5.3	5.3	5.3	10.6							

IC402 BU4052 (V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	5.2	1.8	5.2	5.2	5.2	0	0	0	0	0	5.2	5.2	5.2	5.2	0
Pin No.	16														
	0.5														

IC403 BU4052 (V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	5.2	5.2	5.2	5.2	0	0	0	0	0	0	0.2	5.2	5.2	0.2	5.2
Pin No.	16														
	10.5														

IC404 NJM4558L (V)

Pin No.	1	2	3	4	5	6	7	8							
	5.2	5.2	5.2	0	5.2	5.2	5.2	10.5							

IC405 NJM4558L (V)

Pin No.	1	2	3	4	5	6	7	8							
	5.3	5.3	5.3	0	5.3	5.3	5.3	10.5							

IC407 LB1641 (V)

Pin No.	1	2	3	4	5	6	7	8	9	10					
	0	0.5	0.7	5.0	0	0	11.2	11.2	0.7	0.5					

IC450 STK4192MK2 (V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	0	0	0	- 40.5	- 1.3	0	- 43.5	- 44.0	- 44.5	0	44.5	43.5	0	- 44.5	- 1.3
Pin No.	16	17	18												
	0	0	0												